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"We Reveal to One Another What We Are by What We Do."

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JOURNAL
OF THE
AMERICAN PHARMACEUTICAL ASSOCIATION

TRADE MARK

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THE 81st ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN MADISON, WISCONSIN, IN 1933.

The 1933 Meetings of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, Conference of Pharmaceutical Association Secretaries, of the Pharmaceutical Law Enforcement Officials and the Plant Science Seminar will also be held in Madison.

Entered as second-class Matter, January 23, 1917, at the Post Office at Easton, Pa., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103. Act of October 3, 1917; authorized July 10, 1918.

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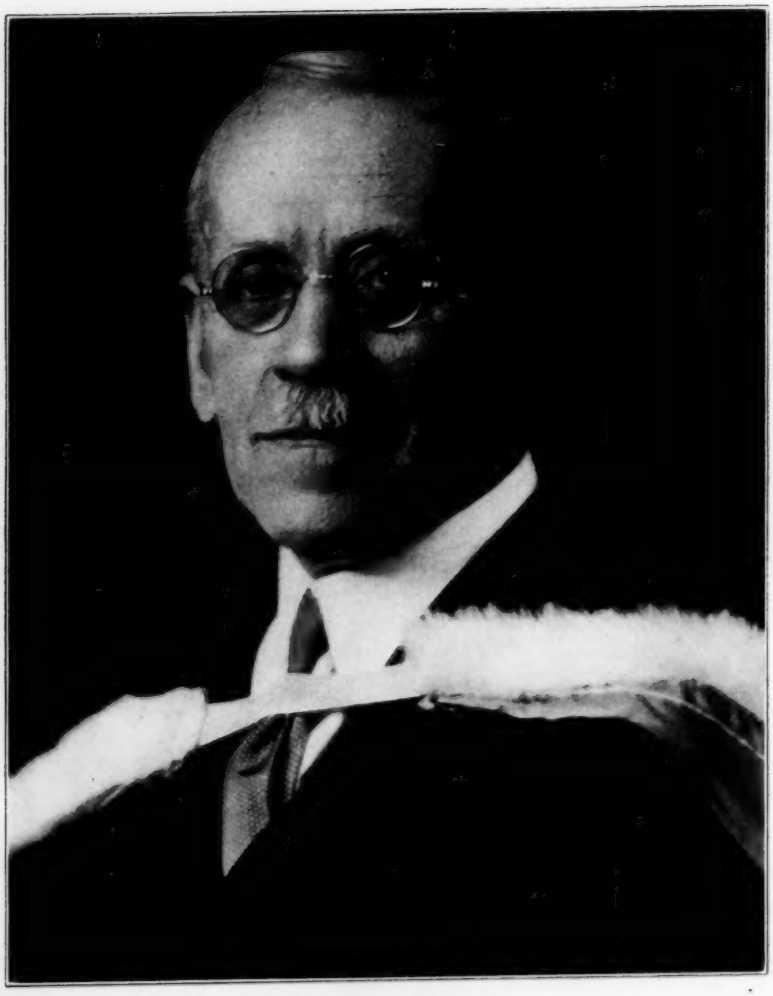
THREE PRESIDENTS.

Courtesy of The Druggists Circular

Left, Walter D. Adams, Forney, Texas, president of the AMERICAN PHARMACEUTICAL ASSOCIATION; Center, F. Gladstone Hines, president of the British Pharmaceutical Society; Right, George A. Burbidge, president of the Canadian Pharmaceutical Association. This group picture was taken at the Toronto meeting, A. PH. A.



CHARLES F. HEBBNER.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XXI OCTOBER, 1932 No. 10

THE HONORARY PRESIDENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The honorary president of the AMERICAN PHARMACEUTICAL ASSOCIATION, for 1932–1933, has been a member of the ASSOCIATION since 1894 and is now a Life Member. He was born in Lee, Mass., among the Berkshire Hills.

As a young man, Charles served a 4-year apprenticeship in the pharmacy of A. W. Fairchild, South Hadley Falls, Mass., and the training received here developed in him a desire for more knowledge relative to drugs and chemicals—the preparations to be made from them and the dispensing of prescriptions. He matriculated at the New York College of Pharmacy and became an alumnus in 1881.

He entered the employ of Lazell, Marsh and Gardiner, with duties in their laboratories. His contribution on the use of dialysis in the preparation of plant extracts from alkaloidal drugs was quite widely reprinted, and served as the basis for his graduating thesis. After graduation he was advanced to chief of the laboratory, which position he held until the firm retired from the drug business in 1891.

In 1883, he was appointed an instructor at the New York College of Pharmacy and, later, advanced to adjunct professor of Pharmacy. During these years the subject of this brief sketch received the encouragement of Dr. Charles Rice, by whom he was appointed member of the Committee on the preparation of the first edition of the National Formulary and assigned the Fluid Extracts.

In 1891, Professor Heebner accepted the call to the Ontario College of Pharmacy and at the end of the first academic year was elected dean. The College became affiliated with the University of Toronto and Dean Heebner was appointed a member of the University Senate, a position he still holds. The University formally recognized the course of instruction and provided for the degree of Bachelor of Pharmacy, of which he was the first recipient, *honoris causa*. The University also appointed him lecturer and demonstrator in Materia Medica, Pharmacy and Therapeutics on the Faculty of Medicine and, later, associate professor, which

position he held until the amalgamation with Trinity College Medical Department, when the duties of the College of Pharmacy required more of his attention and did not permit his continuance on the latter faculty. The requirements of the College of Pharmacy have been gradually advanced; in the present course the pharmacy students receive instruction in physics, chemistry, botany, microscopical pharmacognosy, and pharmacology in the lecture rooms and laboratories of the University from the professors of that institution, under the supervision of Dean Heebner, who has entered upon his 43rd year on the faculty of the Ontario College of Pharmacy.

Professor Heebner took an active part in the affairs of the Alumni Association of New York College of Pharmacy, being secretary of the Association for three years and president for a like period. During the latter administration "Alumni Day" was inaugurated with a program of periodic lectures by men of prominence in the profession, and an official badge was adopted.

The honorary president is a fellow of the Canadian Institute of Chemistry, member of the British Society of Chemical Industry, honorary president of the Alumni Association of the Ontario College of Pharmacy, member of the Board of Pharmacy Studies of the University of Toronto, and member of the Advisory Board of the Dominion Department of Health. He is author of a book on "Pharmacy, Pharmaceutical Chemistry and Urinalysis," and "A Synopsis of Preparations of the British Pharmacopœia."

The dean has hobbies—he has always been fond of athletics—field, water and gymnasium; a baseball enthusiast and was a participant in bicycle events of 1893–1895. He is a collector of postage stamps.

Dean Heebner's son was an ace in the British Air Force, and lost his life in the World War.

The more or less imaginary line which separates two neighbor nations has long ago tied them in bonds of friendship, and coöperation in pharmacy is as genuine between the pharmacists of Canada and the United States as among those of the respective countries.

THE PRESIDENT'S PHARMACY WEEK MESSAGE.

National Pharmacy Week, which occurs this year, October 10th–15th, serves to remind the people of the invaluable service preformed by the druggists. Their scientific skill in compounding the remedies prescribed by physicians makes them indispensable to the healing art. The rigid standard of excellence of product and of high integrity deserve undisputed appreciation.

HERBERT HOOVER.

EDITORIAL

E. G. EBERLE, EDITOR 10 West Chase Street, BALTIMORE, MD.

UNIFORM NARCOTIC DRUG ACT.

A UNIFORM State Narcotic Act has been under consideration by the Conference of Commissioners of Uniform State Laws for several years. Five tentative drafts have been considered and successively modified. The various professions and businesses affected by the proposed act have been given from time to time the opportunity to present their criticisms and suggestions and the U. S. Bureau of Narcotics has been consulted. Pharmacy was not given the opportunity to be heard directly until its representatives insisted, and then only within the last two years.

The protection of the public is, of course, the fundamental purpose of such legislation. It is, undoubtedly, in the interest of the public welfare to limit the production and distribution of narcotic drugs to legitimate medical needs and to prevent the illegitimate traffic in and use of these dangerous substances. However, it is an obligation and in the interest of adequate medical care, to limit the restrictions and regulations imposed upon those charged with the duty of producing, distributing, administering and dispensing the necessary narcotic drugs, to such as are required for the protection of the public welfare. Experience has shown that unnecessary requirements and burdensome regulations make serious hardships and tend to defeat the purpose of legislation, however worthy the purpose may be.

It is claimed that the Federal Narcotic Laws—the Harrison Act and the Narcotic Drugs Import and Export Act—do not adequately cover the regulatory needs within the states. The U. S. Narcotic Bureau believes that the states should take over part of the responsibility and actively coöperate with the Federal Government in controlling narcotics. Even under its taxing and treaty powers, on which the Federal Narcotic Laws rest, the Federal Government cannot do certain necessary things which the states can do under their broad police powers. This condition is recognized in the provision in the Porter Act requiring the Commissioner of Narcotics to coöperate with state authorities. In addition, experience has very naturally brought out certain shortcomings in the Federal Laws; as an instance, no condition is imposed in the registration of manufacturers and wholesalers. Consequently, the Bureau of Narcotics is obligated to register all applicants in these classes although physicians, dentists and pharmacists are required to be licensed in their states, before they can be registered.

Federal enforcement has developed a system of registration, records, forms and reports which seems to serve the purpose. The regulations issued by the Federal authorities have been modified and extended as experience indicated was advisable. The Federal Laws have been interpreted by numerous court decisions. Although it is burdensome to those registered, the Federal procedure is now accepted and the machinery runs fairly smooth.

If state narcotic laws are necessary to secure adequate control, there can be no question that they should be: (1) in conformity to the Federal laws in so far as this can be done without invading state's rights, in order to prevent duplication

of registration, forms, records and reports, and to avoid duplicate authority; (2) uniform in character, as far as this is possible, in the interest of simplicity and to prevent a different procedure in each of the forty-eight or more states and territories for the control of narcotics.

Beyond question, the Commissioners on Uniform State Laws have had these objectives in mind in perfecting the draft which was adopted by the Conference on October 8, 1932, by a decisive vote. It has been fortunate for all concerned that the Commissioners have included narcotic legislation in their efforts. They are experienced constitutional lawyers, and have been selected by their states to discharge an important function. Many of them have had wide legislative and judicial experience. The close relations of the Conference to the American Bar Association is another decided advantage. Such uniform acts as the Conference adopts goes to the officials and legislatures of the states with strong backing, and the Commissioners are obligated to see that such measures have consideration in their respective states.

The original draft of the narcotic law was written by a committee, representing medicine and pharmacy, which met in New York in 1922. The American Medical Association has taken the lead since the Conference of Commissioners on Uniform State Laws became interested, and other professions and businesses were requested to submit suggestions and criticisms of successive drafts through the A. M. A. In 1930, a committee of the National Drug Trade Conference prepared and submitted a lengthy report, and other reports have been submitted by various organizations. Since the suggestions of pharmacy were not apparently receiving much consideration, a committee arranged to be heard during the annual meeting of the Commissioners in Atlantic City last fall and presented their views forcefully. The fourth draft which was then under consideration was referred for further study. Copies of the fifth draft were distributed in August of this year and representatives of pharmacy were invited to a hearing on it in Washington on September 15, 1932. The U. S. Bureau of Narcotics submitted a modified draft and after a day's discussion both were combined and rewritten. That draft was considered by sections by the Conference of Commissioners on October 4, 1932, and again referred with a number of recommendations. On that day, representatives of pharmacy were given another brief hearing along with others.

In all of these hearings, a number of changes were made and several objectionable features removed which directly affected pharmacy, professionally and industrially. The representatives of pharmacy who attended these hearings were outspoken and firm in their views, and it is fortunate for the profession and industry that they were. It is very unfortunate that medicine, dentistry and pharmacy cannot work together more closely in these efforts.

It might be expected that with all these efforts a very satisfactory measure would be the result. In general this may be true, but the involved character of the draft indicates difficulty in its enforcement and the creation of complicated machinery in each state that adopts it without amendment.

It is not possible to discuss the measure in any detail. It will be carefully considered by the Executive Committee of the National Drug Trade Conference on November 2nd and by the Conference at its annual meeting early in December. Thereafter full information and advice as to the course pharmacy should pursue

will be sent to pharmaceutical officials in each state. As the legislatures of a number of states will meet early in 1933, prompt action must be taken.

In its present form, the proposed act does place rather serious additional burdens on pharmacy. Apomorphine is excluded although included in the Federal Laws. Cannabis is recommended for inclusion as a narcotic drug by those states in which it is used illegally. Opium, coca leaves, and cannabis include "any compound, manufacture, salt, derivative, mixture or preparation of them." Narcotic drugs are defined as meaning "coca leaves, opium, cannabis, and every substance not chemically or physically distinguishable from them," which latter definition can bring in many complications. It is made unlawful for any person (which includes any corporation, association, copartnership, or one or more individuals) to manufacture, possess, have under his control, sell, prescribe, administer, dispense or compound any narcotic drug except as authorized in the act. Fraud or deceit in connection with narcotic drugs is made unlawful. The Federal registry number and official order form are recognized but the records required are much more comprehensive. Upon conviction of the violation of any provision of the act, notice thereof is to be sent to the board or officer that licensed or registered the offender. The court may suspend or revoke the license or registration, upon conviction, and the board or officer may reinstate such license or registration "upon proper showing and for good cause." How such a complicated system of suspension or revocation on the one hand, and of reinstatement on the other, can be successful is difficult to grasp.

Manufacturers and wholesalers are required to be licensed in their states by the state body selected as the enforcement agency, the Board of Health being preferred. Their moral character and their equipment as to land, buildings and paraphernalia must be approved, and the license can be withdrawn for cause.

A registered pharmacist and the owner of a store or other place of business where narcotic drugs are compounded or dispensed by a licensed pharmacist, is called an "apothecary" rather than a "retail dealer" as in the Harrison Act. In addition to the more detailed record of the receipt and disposal of narcotic drugs, the apothecary's added trouble is in connection with exempted preparations. Apparently they must be purchased on an official order form. The limits as to the content of narcotic drugs in exempted preparations for internal use are the same as under the Harrison Act but they may contain only one of the specified narcotic drugs. Exempted preparations for external use are without a limit as to quantity or number of narcotic drugs, except that cocaine must not be used, as in the Harrison Act, but must be in such combinations as to prevent the narcotic drugs being readily extracted, placing another difficult responsibility on the retailer's shoulders. Exempted preparations for both internal and external use must contain, in addition to the narcotic drugs, some drug or drugs conferring upon these preparations "medicinal qualities other than those possessed by the narcotic drug alone."

More serious still, "no person shall prescribe, administer, dispense or sell under the exemptions of this section, to any one person, or for the use of any one person or animal, any preparation or preparations included within this section, when he knows, or can by reasonable diligence ascertain, that such prescribing, administering, dispensing or selling will provide the person to whom or for whose use, or the

owner of the animal for the use of which, such preparation is prescribed, administered, dispensed or sold, within any 48 consecutive hours, with more than four grains of opium, or more than one-half grain of morphine or of any of its salts, or more than two grains of codeine or of any of its salts, or more than one-quarter of a grain of heroin or of any of its salts, or will provide such person or the owner of such animal, within 48 consecutive hours, with more than one preparation exempted by this section from the operation of this act."

The difficulty, if not impossibility, of observing these requirements was emphasized by the pharmaceutical representatives, as well as the probable unfairness to those who may actually need them, of so strictly limiting the quantity of any one preparation, or preventing the furnishing of more than one exempt preparation for either internal or external use, to any one person or to the owner of any animal for which it is intended, within any forty-eight consecutive hours. This apparently means that only one exempted preparation, containing only one narcotic drug, and that in the quantity specified, and some drug or drugs conferring upon it medicinal qualities other than those possessed by the narcotic drug alone, can be prescribed, administered, dispensed or sold, in good faith as a medicine, to any one person or to the owner of any animal for the use of that animal, within any two consecutive full days. It seems that if a person should obtain a corn remedy containing an exempted quantity of cannabis, he cannot obtain from the same person a cough syrup containing an exempted quantity of codeine, until forty-eight hours have elapsed. And the responsibility rests entirely on the supplier. Compliance with these requirements, by trained pharmacists and druggists, appears to be practically impossible. How unfair to expect it of dealers who can know but little about medical needs or the composition of these preparations!

The AMERICAN PHARMACEUTICAL ASSOCIATION is in favor of such legislation as will adequately control narcotic drugs and holds no brief for any pharmacist or manufacturing or wholesale druggist who does not comply with the provisions of reasonable legislation for this purpose. The ASSOCIATION took an active part in the drafting and enactment of the Harrison Act. Its model drafts of state narcotic laws stimulated enactment of such legislation by states prior to the Harrison Act. It desires to assist in strengthening the federal and state laws, and in making them uniform, in so far as this is possible and will assist in adequate control. The ASSOCIATION has advocated that the prescribing, administering, dispensing and sale of exempted preparations be limited to physicians and pharmacists and believes that this is in the public interest. Some limitation on the quantity of exempted preparations furnished may be required; if so, it should apply to the purchaser as well, else he only has to visit more than one physician or pharmacist to defeat the purpose of the limitation. The limitations placed in the proposed draft appear to be excessive and unnecessarily burdensome on pharmacists.

The representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION, in cooperation with those of other organizations, have done what they could to bring the proposed act into accord with these views. In some important particulars they were successful and in others they were overruled. Every effort must be made to bring about necessary amendments before the proposed Uniform Narcotic Drug Act is enacted in any state. Otherwise, the enforcement of such stringent and unnecessary requirements may bring narcotic legislation into disrepute.—E. F. K.

THE MOTHER OF AMERICAN PHARMACY.

UNDER above title the *Northern Ohio Druggist* for October presents the following article by its editor, Carl Winter, which we are taking the liberty of reprinting:

"The Eightieth Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, recently held in Toronto, brings to mind that this venerable association is in fact The Mother of American Pharmacy. Certainly all organized conscious endeavor for the betterment of American Pharmacy sprang from it. The various state pharmaceutical associations are its children as is the N. A. R. D., and I think it may be said without laboring the metaphor, that the old AMERICAN PHARMACEUTICAL ASSOCIATION has some sort of direct or oblique maternal relationship to every organized pharmaceutical endeavor not in the United States only, but in all America. It has been the seed or the ferment from which subsequent to its own beginnings all collective efforts for the betterment of Pharmacy in the western hemisphere have come.

"Some of her offspring are often neglectful. Some seem irreverent, sometimes a bit bumptious, asserting that the old AMERICAN PHARMACEUTICAL ASSOCIATION is too pedantic, too traditional, too indulgent with scientific puttering and not sufficiently aware of pressing practical problems. They suspect if they do not say so that she is too fond of reminiscence and mementos, sure signs of senility, hence a doubtful counselor for enterprising vigorous youth. The old parent does not reply in kind. She knows that bumptiousness is only excessive self-esteem, a pardonable fault in youngsters. That youth is preoccupied with its own concerns, as properly it should be. She knows it to be her task to foster the search for the gems of pharmaceutic science and that to maintain that search she must be content to receive much that is of itself unimportant and to praise the patient diligence that brings it to her. She has long since known, as do all wise mothers, that taking absorbing and patient thought on vexing problems may lead as readily to their solution as will overt and strenuous activity alone. She knows too that youth dissembles its feelings and that tradition is in the warp and woof of things that endure. So she goes about her tasks, this patient mother, without reproaches but eager to praise. And since her body renews itself and unlike mere mortals she counts her years in decades instead of months, she will live, this fostering mother, this fine old AMERICAN PHARMACEUTICAL ASSOCIATION, continuing in her patient ways, bestowing laurels on her eminent sons, yet affectionately counting as hers all who revere her. To be so counted is to be enrolled among the aristocracy of the craft."

PHARMACY WEEK MESSAGE OF GOVERNOR ALBERT C. RITCHIE.

I am glad to take this opportunity of giving my hearty endorsement to Pharmacy Week, which is about to be celebrated. I regard this undertaking as thoroughly commendable, because it will bring to the attention of our people the splendid services rendered by the profession of pharmacy to the health and welfare of the Nation. These services are particularly outstanding in Maryland, and this is largely because the famous and historical School of Pharmacy of the University of Maryland is located in Baltimore. I congratulate the Maryland pharmacists on the high standards they have attained, and which they unfailingly maintain.

ALBERT C. RITCHIE.

SCIENTIFIC SECTION

BOARD OF REVIEW ON PAPERS.—*Chairman*, L. W. Rowe; John C. Krantz.; F. J. Bacon.

DIGITALIS FAT—THE PETROLEUM-ETHER EXTRACTIVE OF DIGITALIS PURPUREA LINNÉ.

BY A. JOHN SCHWARZ.

(*Continued from page 860, September 1932.*)

Pigmentary Material: Fatty Acids—Fraction I.—The lead salts, insoluble in boiling alcohol, were highly pigmented, having a raven-blackish green color. They give a dark green color to petroleum ether. The material separated in clumps which became brittle upon drying and could be readily pulverized. The weight of this fraction is 148 Gm. and has been set aside for a later study.

The Saturated Fatty Acids: Fraction II.—The fraction of lead salts, soluble in hot alcohol and insoluble in cold alcohol, should contain the saturated or solid fatty acid salts. There were 97 Gm. of a light green powder in this fraction. These salts were dissolved in 2 liters of hot alcohol and while still warm, were decomposed by leading hydrogen sulphide directly into the solution. The lead sulphide was filtered off, the filtrate coming through being of a dull yellowish color; this was subjected to further hydrogen sulphide treatment which precipitated more lead sulphide. The filtrate after the second precipitation came through with a clear, light yellow color. Upon cooling, however, the filtrate became turbid. This alcoholic solution of the fatty acids was partly distilled, the volume being reduced to about one-half. Upon cooling there was a very pronounced clouding of the liquid and partial precipitation. This was filtered off, dissolved in acetic acid and washed with water; it consisted of 8 Gm. of crude fatty acid with a m. p. of 61° C. Upon crystallization from acetic acid, a dark colored ring separated from the fatty acids at the upper surface. This was removed, and as was later discovered, consisted of non-saponifiable material that had not been removed by the ether extraction of the saponified fat. There were one and one-half Gm. of this material, with a m. p. of 65° C.

The filtrate was chilled and kept at 0° C. for five hours which produced a further precipitation. This was filtered off and tested in the same manner as the above. This netted seventeen Gm. of crude fatty acids with a m. p. of 51° to 53° C.

The filtrate was then further concentrated but there was no further precipitation except upon cooling when an additional twenty-eight Gm. of fatty acids separated out. This was taken up in acetic acid, crystallized and then taken up in alcohol, washed with water, yielding a crude fatty acid mixture with a m. p. of 51° to 53° C. This was an attempt to separate the fatty acids by fractional crystallization.

Each of these four fractions of crude fatty acids was then repeatedly crystallized from hot acetic acid, subsequently from alcohol, and washed with water. It was noted that in the acetic acid treatment, a distinct upper and lower layer were formed; this served as a basis for further separation into sub-fractions. As a result of this fractionation the following groupings were made:

		M. P.° C.	Quantity—Gm.	Color.
1.	Fatty acids	65	1.0	Creamy white
2.	Fatty acids	63	5.5	Creamy, almost white
3.	Fatty acids	(The non-saponified portion—1/2 Gm.—yellow)		
4.	Fatty acids	71	1.0	Yellow
5.	Fatty acids	54	14.5	Yellowish white
6.	Fatty acids	61	1.5	White
7.	Fatty acids	55	7.0	Creamy white
8.	Fatty acids	52	11.0	Light buff

Methyl Esters of the Low M. P. Fatty Acids.—The fatty acids in the above group, having a melting point below 60° C. were combined and the methyl esters were prepared by the Haller method.[1]

The ether solution of the methyl esters was then exposed to the air to remove the ether and permit the crystallization of the methyl esters. Distillation of the methyl esters was deemed inadvisable on account of the small quantity. Upon the removal of all of the ether, there was no separation of methyl esters. The liquid was of a dark red color. It was kept at 29° C. for 5 hours, but there was no congealing or precipitation. This was taken as an indication for the absence of the methyl esters of stearic acid or any other saturated fatty acid higher in the series.

The liquid methyl esters were then cooled to 20° C. after which a solid separated from the liquid. This was filtered off on a force filter. The filtrate was again cooled to 20° C. and more solid matter separated out, which was force filtered and kept as a second fraction. Further cooling of the filtrate at 20° C. produced no more solid matter. The temperature of the solution was then lowered to 8° C. which is 3° above the melting point of the methyl ester of lauric acid. This was force filtered, the filtrate chilled and force filtered, and the process repeated a third time. After the third cooling, no liquid remained.

Each of these 5 methyl-ester fractions was then saponified with alcoholic potassium hydroxide, and the free acids liberated by the addition of a 1:10 sulphuric acid solution. The acids were then crystallized from 95% alcohol a number of times, and finally from absolute alcohol. The first fraction yielded four Gm. of an acid with a m. p. of 62.5° C.; this was taken as an indication for palmitic acid. Fractions four and five yielded 2 Gm. of an acid with a m. p. of 53° to 54° C., which was taken as an indication for myristic acid. Fractions two and three of this series were not completely purified; in all probability each is a mixture of palmitic and myristic acids.

Verification of Palmitic Acid ($C_{15}H_{31}COOH$).—That the acid crystallized out from Fraction I is palmitic acid is proven by the following experimental work:

1. The melting point (62.5) coincides with the melting point of palmitic acid—62.8° C.
2. The neutralization value for the acid is 218.98, and the theoretical neutralization value for palmitic acid is recorded as 219.1.
3. The molecular weight as calculated from the acid value is 256.34 and the molecular weight of palmitic acid is 256.26.
4. The acid was obtained by the saponification of a methyl ester having the melting point of methyl palmitate.
5. The acid when mixed with an authentic palmitic acid shows no depression of the melting point.

[1] E. Haller, *Compt. rend.*, 146 (1908), 250.

Verification of Myristic Acid ($C_{13}H_{27}COOH$).—That the acid crystallized out from Fractions IV and V is myristic acid is proven by the following experimental work:

1. The melting point (53° to 54° C.) coincides with the melting point of myristic acid—53.8° C.
2. The neutralization value for the acid is 245.63 and the neutralization value for myristic acid is recorded as 246.1.
3. The molecular weight of the acid as calculated from the acid value is 228.49, and the molecular weight of myristic acid is 228.22.
4. The acid was obtained by the saponification of a methyl ester having the melting point of methyl myristate.
5. The acid when mixed with authentic myristic acid shows no depression of the melting point.

Fractional Crystallization of the Higher Fatty Acids.—The fractions of acids whose melting points were above 61° C. (page 999) with the exception of Fraction III, were combined (7.5G m.) and crystallized from acetic acid, then alcohol and washed with water a number of times. All of the acids were soluble in the hot alcoholic solution, but upon cooling separation or precipitation would occur that was not a true crystallization. This was filtered off, and the filtrate concentrated from which an acid crystallized. A separation was then attempted on a basis of solubility in cold ether for the purpose of removing any acids in the C_{14} to C_{18} group. The acid which crystallized from the cold alcohol filtrate was completely soluble in the cold ether. The cold alcohol-insoluble acids were also subjected to the hot and cold ether separation with the following results:

1. Cold alcohol, cold ether-soluble fraction—2 Gm., m. p. 69° to 71° C.
2. Cold alcohol insoluble, cold-ether soluble fraction—0.2 Gm., m. p. 71° to 75° C.
3. Cold alcohol and cold ether-insoluble fraction—0.1 Gm., m. p. 82° C.

Each of these fractions was repeatedly crystallized from petroleum ether. The melting point of Fraction I could not be raised above 71° C. The neutralization value for the acid or acids of this fraction was 141.4; the neutralization value for cerotic acid is 141.7 and the melting point is recorded as 77° to 82° C., although F. B. Power reported a cerotic acid having a melting point of 74° to 76° C.[1] In view of the low melting point and the neutralization value of 141.4, it appears as though this fraction is a mixture of possibly cerotic acid and some acids of higher and lower melting points.

Fraction II was finally crystallized from benzene when it had a melting point of 75° C. The neutralization value of it was found to be 138.5. When mixed with an authentic cerotic acid there was no appreciable depression of the melting point. The neutralization value of the authentic cerotic acid was found to be 135.05. The molecular weight of the acid of this fraction was found to be 405.08. The molecular weight of the C_{26} cerotic acid is 396.42. On account of the small amount of material in this fraction, it was impossible to make further determinations. Evidence, however, is sufficient to indicate the possible presence of cerotic acid—$C_{25}H_{51}COOH$.

Fraction III was likewise crystallized from benzene but it was impossible to obtain a pure white acid and further crystallizations had to be abandoned on

[1] *Jour. Chem. Soc.*, 93 (1908), 1658.

account of the limited amount of material. The m. p. of this fraction was 84° C. Melissic acid has a melting point of 88.5° C. The neutralization value for this fraction was 83.68 while that of melissic acid is 124.1. The possibility that this fraction might consist of impure melissic acid suggested itself for the following reasons:

1. The m. p. approaches that of montanic acid (86° C.) but because of the yellowish appearance of the acid it was thought the impurity would cause a greater depression of the melting point. For melissic acid there would be a difference of 4.5°.
2. The neutralization value indicates the presence of considerable impurity which factor would again rule out the possibility of montanic acid.
3. Since the saturated alcohol and the saturated hydrocarbon of C_{30} composition have been isolated, it would seem logical that the corresponding saturated acid might also be present.

Verification of Cerotic Acid ($C_{25}H_{51}COOH$).—That the acid crystallized from the cold alcohol-insoluble cold, ether-soluble fraction is cerotic acid is proven by the following experimental work:

1. The melting point (75° C.) coincides with a melting point of cerotic acid reported by F. B. Power—74° to 76° C.
2. The neutralization value for the acid is 138.5 while the neutralization value for authentic cerotic acid is 135.05.
3. The molecular weight of the acid as calculated from the acid value is 405.08, and the molecular weight of cerotic acid is 396.42.
4. The acid when mixed with authentic cerotic acid shows no appreciable depression of the melting point.

The Unsaturated Fatty Acids: Fractions III and IV.—The fraction consisting of the solution of the lead salts soluble in cold alcohol (Fraction IV) was evaporated to one-half its volume (5 liters) and cooled for a day at 15° C. No precipitate appeared. The lead salts in solution were decomposed by means of hydrogen sulphide led directly into the solution. The solution was warmed in order to coagulate the lead sulphide and then filtered. A greenish colored filtrate was obtained. This filtrate was again treated with hydrogen sulphide with a further precipitation of lead sulphide. When warmed and filtered again, the filtrate was a clear, orange to golden-orange liquid. The lead-sulphide precipitate was thoroughly washed with hot alcohol; it evidently retained the greater amount of pigmentary material.

The alcohol was recovered from the filtrate and washings under reduced pressure and the last traces of acetic acid were removed by heating on a steam-bath under reduced pressure. Carbon dioxide was passed into the vacuum distillation apparatus during the distillation; 157 Gm. of a red oil were obtained.

Fraction III was treated in exactly the same manner from which 29 Gm. of a dark red oily liquid were obtained.

Bromination of the Unsaturated or Liquid Fatty Acids: Fraction IV.—The bromination and separation of the unsaturated fatty acids was carried out according to the process described by L. Rosenthaler.[1] The hexabromides were thrown out of solution when the brominated solution had been kept at 5° C. for twenty-four hours. They were filtered off by suction, washed with a cold mixture of equal parts of glacial acetic acid and ether and then with 200 cc. of absolute alco-

[1] L. Rosenthaler, "Chemical Investigation of Plants," 1st Edition (1930), page 83.

hol. The hexabromides were then crystallized in a white mass from benzene. Twelve grams of the hexabromide were obtained; the melting point (181–182° C.) coincides with the recorded melting point of linolenic hexabromide.

Characterization of Linolenic Acid.—The hexabromide was analyzed for bromine content by the Stepenow method.[1] The liberated halogen was then titrated according to the Volhard method.[2]

	Sample 1.	Sample 2.	Average.
Per cent bromine present...	63.122 per cent	62.987 per cent	63.054 per cent

The theoretical percentage of bromine in linolenic hexabromide is 63.32%.

Verification of Linolenic Acid ($C_{17}H_{29}COOH$).—That linolenic acid is present is proven by the preparation of the hexabromide derivative.

1. The prepared hexabromide has a m. p. (181° to 182° C.) which coincides with the recorded m. p. for linolenic hexabromide (180° to 181° C.).
2. The bromine content of the prepared hexabromide (average 63.05%) compares favorably with the theoretical bromine content of linolenic hexabromide (63.32%).

Characterization of Linolic Acid.—The filtrate from the linolenic hexabromide was poured into a large volume of water (6 liters), the precipitate filtered off, washed with saturated sodium thiosulphate solution to remove the excess bromine, and then repeatedly washed with water. The precipitate was then dissolved in ether, the ether removed by distillation and the residue extracted with hot petroleum ether. This petroleum-ether extract was chilled at 0° C. and maintained at that temperature for two hours, when the tetrabromide derivative of an unsaturated acid came out of solution. The tetrabromide was filtered off and the filtrate concentrated to half its volume and again chilled at 0° C. After two hours, a second precipitate appeared which was filtered off and combined with the first precipitate. The filtrate was again lowered to 0° C. but no further precipitation occurred. The tetrabromide was dissolved in boiling petroleum ether from which it crystallized, then crystallized from ether, and finally from petroleum ether again. The crystals were white, had a m. p. of 111° to 112° C. which m. p. could not be raised by further recrystallizations. The yield was 2.5 Gm. Lewkowitsch records the m. p. for linolic tetrabromide as 113° to 114° C.

A bromine determination according to the Stepenow method showed the following results:

	Sample 1.	Sample 2.	Average.
Per cent bromine present...	52.73 per cent	53.001 per cent	52.865 per cent

The theoretical amount of bromine in linolic tetrabromide is calculated as 53.33%.

Verification of Linolic Acid ($C_{17}H_{31}COOH$).—That linolic acid is present is proven by the preparation of the tetrabromide derivative.

1. The prepared tetrabromide has a m. p. (111° to 112° C.) which compares favorably with the recorded m. p. for linolic tetrabromide (113° to 114° C.)
2. The bromine content of the prepared tetrabromide (average 52.865%) also compares favorably with the recorded theoretical bromine content of linolic tetrabromide (53.33%).

Characterization of Oleic Acid.—After the removal of the tetrabromide by filtration, the filtrate contained the dibromides. This filtrate was exposed to the

[1] *Ber. d. d. chem. Gesels.*, 39 (1906), 4056.

[2] H. Bassett, "Theory of Quant. Anal.," 1st Edition (1925), page 25.

air and the petroleum ether evaporated, which left a yellowish red thick liquid weighing about twenty Gm. Bromine determinations were made of this dibromide material with the following results:

	Sample 1.	Sample 2.	Average.
Per cent bromine present...	38.93 per cent	41.03 per cent	39.98 per cent

The calculated theoretical amount of bromine in oleic dibromide is only 36.8%; apparently all of the tetrabromide had not been thrown out of solution during the chilling process.

Oleic acid was liberated from this dibromide according to the method of Heiduschka and Lueft,[1] in which the dibromide is decomposed by zinc filings in the presence of ethyl alcohol, forming the ethyl ester of the acid. The ester is saponified with potassium hydroxide and the potassium soap formed is decomposed with 1:10 sulphuric acid. This free fatty acid was shaken out with ether, dried over sodium sulphate and the ether removed by distillation leaving the acid. This was of a very dark red color, so it was treated with charcoal to clarify it after which it had a light yellowish color. The yield was about seven Gm.

Verification of Oleic Acid ($C_{17}H_{33}COOH$).—That oleic acid is present is proven by the preparation of the dibromide from which the free acid is again liberated.

1. The prepared dibromide has a bromine content of 39.98% which is slightly higher than the theoretical amount of bromine in oleic dibromide (36.8%) but which is probably due to the presence of a small amount of linolic tetrabromide.

2. Oleic acid was liberated from the dibromide and responded to the following tests for oleic acid:[2]

a. Solidifying point—3° to 4° C.; theoretical—4° C.

b. The acid in sulphuric acid, layered with a 1% vanillin solution shows a violet ring at the line of contact.

c. The addition of the acid drop by drop into sulphuric acid containing a carbohydrate and followed by adding some water produces an intense red color, which when still further diluted with water becomes violet, and finally disappears leaving a black carbonized mass.

Fraction III yielded the same unsaturated fatty acids as Fraction IV. Their respective bromides were prepared with the following results:

	Melting Point.		Bromine %.	
	Exper.	Theor.	Exper.	Theor.
1. Linolenic hexabromide	181° C.	180°–181° C.	63.04	63.32
2. Linolic tetrabromide	111°–112°	113°–114°	53.32	53.33
3. Oleic dibromide	.....	.....	40.10	36.80

The Non-Saponifiable Fraction.—The non-saponifiable material (300 Gm.) was heated to the point of liquefaction with five hundred cc. of 95% alcohol. There was a separation into two distinct layers:

I. An upper layer of orange color—the hot alcohol-soluble fraction.
II. A lower layer of deep red color—the hot alcohol-insoluble fraction.

I. *The Hot Alcohol-Soluble Fraction.*—This fraction upon cooling precipitated an orange-colored solid, which was the basis for a further subdivision of this fraction into:

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[1] *Arch. d. Pharm.*, 257 (1919), 51.

[2] J. Lewkowitsch, "Chem. Tech. Fats, Oils and Waxes," 6th Edition, 1 (1921), 183. L. Rosenthaler, "Chem. Invest. of Plants," 1st Edition (1930), page 84. A. Benedikt and R. Ulzer, "Anal. d. Fette u. Wachse," 4th Edition (1903), page 25.

a. The cold alcohol-soluble fraction—deep red color.
b. The cold alcohol-insoluble fraction—orange color.

The solid Fraction *b.* was washed with repeated five hundred-cc. portions of hot 95% alcohol, effecting a solution which upon cooling would precipitate the cold alcohol-insoluble material. But with each washing and subsequent precipitation the solid became lighter in color, changing from the orange to a deep yellow, through the various shades of yellow to cream and finally a white crystalline substance. The yield of this was 4.5 Gm. It was recrystallized from ethyl acetate several times. The melting point was 81° to 83° C. The crystals were very light and fluffy, tasteless and completely soluble in acetic anhydride. Since this was non-saponifiable material, the solubility in the anhydride classified it as an alcohol, ruling out the possibility of a hydrocarbon.

The crystalline mass was dissolved in chloroform and crystallized from it, which raised the m. p. to 84–85° C. Melissyl alcohol is recorded as having a m. p. of 85° C. Accordingly the acetate of this alcohol was prepared according to the method described by J. Lewkowitsch.[1] The acetate was dissolved in ethyl acetate from which it crystallized in very short acicular crystals. Upon filtering, however, these crystals matted together in a parchment-like film which could be readily peeled from the filter paper. The m. p. of the acetate was 72° to 73° C. which is in agreement with the recorded m. p. of melissyl acetate; Lewkowitsch records it as melting at 73° to 75° C. The acetate was recrystallized from absolute alcohol in an attempt to get away from the film-like acetate, but upon filtering it again massed together. The m. p., however, was raised to 73° to 74° C.

Verification of Melissyl Alcohol ($C_{30}H_{61}OH$).—That the substance isolated from this fraction is melissyl alcohol is proven by the following:

1. It is non-saponifiable material entirely soluble in acetic anhydride which characterizes it as an alcohol.
2. The m. p. is 84° to 85° C. which is in accord with the recorded m. p. of 85° C. for melissyl alcohol.
3. The alcohol fails to give a positive Liebermann-Burchard and Salkowski test, indicating that it was not an unsaturated alcohol or sterol.
4. The crystals in ethyl acetate medium are very short and acicular.
5. The acetate prepared from it has a m. p. of 73° to 74° C.; the m. p. recorded in the literature for melissyl acetate is 73° to 75° C.

The cold alcohol-soluble Fraction *a.* (above) together with the alcohol washings of the fraction that yielded the melissyl alcohol, was subjected to distillation for recovery of the alcohol and uncovering the substances in solution. Distillation was carried on under reduced pressure. After the bulk of the liquid had been reduced to one-half its volume and cooled, a mass of rusty-colored crystals appeared. After three successive crystallizations from 95% alcohol, a mass of small white, lustrous, flaky crystals was obtained having a m. p. of 124° C. The yield was seven Gm. About three Gm. of these crystals were dissolved in ether from which they crystallized in needles; the m. p. was raised to 135° to 136° C.

These crystals gave a positive Liebermann-Burchard test[2] as well as positive

[1] J. Lewkowitsch, "Chem. Tech. Fats, Oils and Waxes," 6th Edition (1921), page 613.
[2] A. Mathews, "Physiol. Chem.," 3rd Edition (1920), page 82.

tests for the Salkowski[1] and Hesse[2] reactions which characterize the crystals as a sterol or unsaturated alcohol. To confirm this characterization, the acetate was prepared according to Boemer's method.[3] The acetate was crystallized from absolute alcohol, washed with 95% alcohol and then recrystallized four times from absolute alcohol. The acetate had a m. p. of 128° to 129° C. which conforms with the m. p. of the phytosterol acetate recorded in the literature (125° to 137° C.). The acetate crystallized from absolute alcohol in very lustrous, flaky, mother-of-pearl plates bearing somewhat of a resemblance to fragments of mica.

These properties of the isolated phytosterol fairly well meet the description of sitosterol whose m. p. is 137° to 138° C. and whose acetate has a m. p. of 125.6° to 137° C. Sitosterol crystallizes in plates from alcohol and in anhydrous needles from ether.[4]

A 1% alcoholic solution of digitonin formed a precipitate when mixed with a solution of the sterol. This property of the sterol to form an addition compound with digitonin is the basis of Windaus' sterol determination.[5] The digitonide comes out as a colorless mass of fine crystals.

Verification of the Phytosterol—Sitosterol ($C_{27}H_{45}OH$).—That the above-mentioned isolated substance is a phytosterol, and more specifically sitosterol, is proven by the following experimental results:

1. It gives positive sterol tests—Liebermann-Burchard, Salkowski and Hesse.
2. It crystallizes in plates from alcohol and in needles from ether.
3. Its melting point is 135° to 136° C.; the recorded m. p. for sitosterol is 135° to 137.5° C.[6]
4. It is precipitated as the colorless crystals of the digitonide when mixed with a 1% alcoholic digitonin solution.
5. The acetate melts at 128° to 129° C.; the sitosterol acetate has a m. p. varying from 125.6° to 137° C. depending upon the source of the sitosterol.[7]

The mother liquor yielding the phytosterol was concentrated to half of its volume when about one Gm. more of the sterol was crystallized. Further concentrations failed to yield more phytosterol, and the last traces of alcohol were removed from it on the steam-bath. The residue is a thick viscous liquid, retaining the deep blood-red color, and from which no precipitation has occurred over a period of several months. It is soluble in ether and in petroleum ether, but no crystallizations were obtained from these solutions.

II. *The Hot Alcohol-Insoluble Fraction.*—In hot alcohol, this fraction separated out as a chocolate-red liquid at the bottom of the beaker. Upon cooling it hardened into a body of a waxy consistency having a waxy feel and showing a waxy luster when cut with a knife and a dull rugged fracture when broken. This fraction was readily separated from the hot alcohol-soluble fraction since the latter was of a mushy consistency when cooled, whereas the waxy fraction became hard and solid. This fraction was repeatedly heated with alcohol to the point of lique-

[1] L. Rosenthaler, "Chem. Invest. of Plants," 1st Edition (1930), page 78.

[2] *Ztschr. f. untersuch. d. Nahr. u. Genussm.*, 4 (1901), 865; 5 (1902), 1013.

[3] J. Lewkowitsch, "Chem. Tech. Fats, Oils and Waxes," 6th Edition, Vol. 1 (1921), page 280.

[4] *Ber. d. d. chem. Gesels.*, 42 (1909), 238.

[5] *Ibid.*, 39 (1906), 4379.

[6] J. Lewkowitsch, "Chem. Tech. Fats, Oils and Waxes," 6th Edition, Vol. 1 (1921).

[7] J. Lewkowitsch, *Ibid.*, 6th Edition, Vol. 1 (1921), page 600.

faction, and a similar separation made as described above. Of the hot alcohol-soluble extraction, the portion insoluble in the cold alcohol was filtered off and added to the melissyl alcohol yielding fraction (page 1000). The filtrate of this was added to the phytosterol yielding fraction (page 1001). This procedure was continued until no further extractive was yielded to hot alcohol.

The final alcohol-insoluble fraction was soluble in acetone from which it crystallized as a very light and fluffy mass of somewhat gummy consistency, but it was difficult to free it of all of the yellow color. All of the red color, however, was removed and was contained in the filtrate obtained by force filtering the crystalline mass.

The acetone filtrate with the red coloring matter was set aside, the acetone evaporated, leaving a residue of deep red color and of more or less greasy feel, non-waxy and of a soft consistency. This was washed with alcohol several times some of it going into solution from which a white crystalline substance was precipitated which gave positive sterol tests. Nothing further was done with the dark red residue. The crystals upon recrystallization from ether had a m. p. of 130° C. Apparently this is the same sterol identified as sitosterol but lack of material prevented further work on this sterol.

The crystalline mass which was obtained from the acetone and was insoluble in hot 95% alcohol, was melted and hot 95% alcohol added. This again threw the mass to the bottom of the beaker and upon cooling formed a hard, solid waxy mass suggestive of beeswax. There were 86 Gm. of this material. This was all dissolved in ethyl acetate and crystallized from it. After six successive crystallizations, a nearly white product was obtained, but the gummy or sticky feel was still in evidence but less pronounced. This crystalline material was then boiled with 95% alcohol for two minutes. The major portion of the fraction went into solution but rapidly settled out upon cooling below the boiling point as a pure white, amorphous, very light and caky mass.

Crystallizing from various solvents was attempted, the best results being obtained with chloroform; the gummy property was still a part of the crystalline mass.

These crystals were next treated for hydrocarbon separation according to the method of A. Leys,[1] in which the amyl alcoholic solution of the crystals was boiled with fuming hydrochloric acid. Upon cooling a solid layer separated out on the upper surface which was lifted off and purified by a repetition of the process. The amyl alcohol-hydrochloric acid mother liquor was mixed with a large quantity of water so as to wash out the acid. The amyl alcohol was then concentrated and a small amount of melissyl alcohol crystallized from it.

The solid layer, hydrocarbon in nature, crystallized from chloroform in silky, lustrous white scales or laminæ, having a m. p. of 69° to 69.5° C. Repeated attempts to make an acetate by heating with acetic anhydride under reflux for several hours failed to produce any results. The hydrocarbon would invariably crystallize out from chloroform or ethyl acetate with an unchanged melting point. It was not affected by concentrated sulphuric acid; it reacted negatively to the sterol tests; and it failed to decolorize a 1% permanganate solution. All of these

[1] *Jour. de pharm. et de chim.*, Ser. 7, 5 (1912), 577. L. Rosenthaler, "Nachweis. d. Org. Verbind." (1923), 13.

tests are indications that the substance is hydrocarbon, and according to its melting point it may be characterized as triacontane which is reported in the literature as having a m. p. of 69° to 70° C. The yield was thirty-five Gm.

Verification of Triacontane ($C_{30}H_{62}$).—That the substance isolated is a hydrocarbon and that it might be triacontane is indicated by the following experimental work:

1. The substance is highly inactive, failing to form an acetate.
2. It is non-saponifiable and gives a negative test for sterol.
3. It is not affected by concentrated sulphuric acid.
4. It does not decolorize a 1% permanganate solution.
5. It was obtained in a manner that Leys prescribes for the isolation of hydrocarbon material.
6. While these 5 points classify it as a hydrocarbon, the m. p. of 69° to 69.5° C. classifies it as triacontane.

SUMMARY.

I. The percentage of total fat (petroleum-ether extractive) in digitalis leaves varies from 1.023% to 1.750%, a value much lower than any previously reported.

II. Organic compounds isolated from the fat and not previously reported in the literature are:

a. Fatty Acids—Saturated
  1. Myristic Acid
  2. Palmitic Acid
  3. Cerotic Acid
  4. Melissic Acid (?)

b. Fatty Acids—Unsaturated
  1. Oleic Acid
  2. Linolic Acid
  3. Linolenic Acid

c. Alcohols—Saturated
  1. Glycerol
  2. Melissyl Alcohol

d. Alcohols—Unsaturated (Sterols)
  1. Sitosterol

e. Hydrocarbons—Saturated
  1. Triacontane.

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IX. THE STANDARDIZATION AND STABILIZATION OF ERGOT PREPARATIONS.*

BY CLARENCE E. POWELL, HANS A. SCHULZE AND EDWARD E. SWANSON.

The stability of the fluidextract of ergot has been a serious difficulty in its pharmaceutical and therapeutic use. Previously, Haskell and Eckler (1), Garcia (2), Prybill and Maurer (3), Wokes (4), Thompson (5), Swanson (6), Smith and Stohlman (7), Rowe and Scoville (8) and Swanson, Powell, Stevens and Stuart (9) have reported rapid deterioration of ergot preparations. The purpose of this investigation is a continuation of previous stability tests (6 and 9) and an attempt to ascertain definitely (*a*) whether or not the hydrogen-ion concentration factor, (*b*) buffer salts or (*c*) reducing agents prevent the deterioration of ergot and its alkaloids.

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* Scientific Section, Toronto meeting, 1932.

Solutions of the alkaloid ergotamine tartrate (0.05 per cent) were prepared in 40 per cent, 60 per cent and 80 per cent alcohol. To produce various hydrogen-ion concentrations, hydrochloric acid and tartaric acid were used. In some of the alkaloidal solutions, the buffer salt, sodium dihydrogen phosphate; or the reducing agents, sodium dihydrogen hypophosphite; or sodium hydrosulphite were used. To some of the buffer or reducing agents of the solutions of the alkaloid, hydrochloric acid or tartaric acid were used to change the hydrogen-ion concentration. A fluidextract of ergot was prepared without an acid menstruum and divided into eighteen parts. As in the alcoholic alkaloidal solutions, these fluidextracts were treated with acids, buffer or reducing agents. All potency tests were made by the Broom and Clark method and Smith's Chemical method.

As shown in Table I, the various solutions of ergotamine tartrate do not retain their original potency at the end of six months' aging. Various percentages of alcohol (40, 60 or 80 per cent) do not stabilize the alkaloid. Forty per cent alcohol is just as efficient as 80 per cent alcohol, as shown in solutions Nos. 1, 2 and 3 in Table I. With hydrogen-ion concentrations (2.1 to 3.6) and the various percentages of alcohol, the alkaloid shows distinctly more activity at the end of six months' aging. This stability appears to be due to the presence of the acids (hydrochloric

TABLE I.—SOLUTIONS OF ERGOTAMINE TARTRATE 0.05% POTENCY AFTER SIX MONTHS' AGING AT ROOM TEMPERATURE.

Solution Number.	Alcohol, Per Cent.	Buffer, 2.5 Per Cent.	Acid.	p_H When Made.	p_H 6 Mo. Later.	Per Cent Activity. Broom and Clark Method.	Per Cent Activity. Smith's Chemical Method.
1	40			6.7	4.2	7	
2	60			5.3	4.6	13	
3	80			4.3	5.13	10	
4	40		HCl	3.0	3.1	32.5	
5	60		HCl	2.4	2.1	25	
6	80		HCl	2.4	2.4	22	
7	40		Tartaric	3.0	3.6	58	40
8	60		Tartaric	3.1	3.5	72	50
9	80		Tartaric	3.4	3.6	47	30
10	40		HCl	1.0	1.2	18	10
11	40		HCl	2.1	2.1	60	60
12	40		HCl	4.9	4.6	−10	−10
13	40		HCl	5.7	4.9	18	25
14	40		HCl	7.1	5.7	8	−10
15	40	$NaH_2PO_4H_2O$		4.7	4.5	15	−10
16	40	$NaH_2PO_4H_2O$	HCl	4.2	4.0	41	20
17	60	$NaH_2PO_4H_2O$		4.4	4.8	4.7	−10
18	60	$NaH_2PO_4H_2O$	HCl	3.3	3.3	63	54.4
19	40	$NaH_2PO_2H_2O$		5.1	3.9	6	−10
20	40	$NaH_2PO_2H_2O$	HCl	3.0	2.9	−10	20
21	60	$NaH_2PO_2H_2O$		5.05	4.2	−10	−10
22	60	$NaH_2PO_2H_2O$	HCl	3.1	3.1	−10	−10
23	40	$Na_2S_2O_4$		8.2	9.0	43	50
24	40	$Na_2S_2O_4$	HCl	3.0	1.8	40	50
25	60	$Na_2S_2O_4$		Above 10	Above 10	34	48.4
26	60	$Na_2S_2O_4$	HCl	3.0	8.3	38	46
27	40	$NaH_2PO_4H_2O$	Tartaric	3.4	3.3	43	27.4
28	40	$NaH_2PO_2H_2O$	Tartaric	2.9	3.0	−10	−10
29	40	$Na_2S_2O_4$	Tartaric	ppt.	2.3	34	45

acid or tartaric acid) rather than the alcohol. Tartaric acid is more efficient than hydrochloric acid. With a low p_H (below 2.0) or a high p_H (above 4.00), the deterioration of the alkaloid is approximately the same as with the various percentages of alcohol. This shows that an acid alcoholic solvent with a p_H of 2 to 4 is more efficient in preventing the deterioration of ergotamine tartrate than an alcoholic solution or an acid alcoholic solvent with a p_H below 2.00 or higher than 4.00.

As shown in solutions Nos. 15, 16, 17, 18 and 27 (Table I), the alkaloid with sodium dihydrogen phosphate and acids (hydrochloric acid or tartaric acid) is distinctly more stable than with the buffer alone. This shows that the stability of the alkaloid is due to the acid rather than the buffer. With or without the acids, sodium dihydrogen hypophosphite does not prevent the loss of activity of the alkaloid as shown in solutions Nos. 19, 20, 21, 22 and 28 (Table I). This shows that the alkaloid with the reducing agent (sodium dihydrogen hypophosphite) with or without acid deteriorates rapidly. Sodium hydrosulphite with or without the acids or regardless of the hydrogen-ion concentration appears to stabilize 34 per cent to 50 per cent of the alkaloid, as shown in solutions Nos. 23, 24, 25, 26 and 29 (Table I). This shows that sodium hydrosulphite partially prevents the deterioration of the alkaloid as reported by Smith and Stohlman (7). However, as shown in Table I solutions Nos. 4, 7, 8, 9 and 11, an acid alcoholic solution with a p_H of 2 to 4 is just as efficient in preventing the deterioration of the alkaloid as sodium hydrosulphite.

As shown in Table II, the fluidextracts of ergot do not deteriorate as rapidly as the solutions of the alkaloid after six months' aging. In this series, the hydrogen-ion concentration appears to prevent a loss in potency. A fluidextract of ergot with a p_H of 3.2, as in No. 3 (Table II), retains its original potency. A low p_H of 1.0 to 1.8 or a high p_H of 6.5 to 7.0 shows only 23 per cent and 55 per cent activity, respectively. Thus, in this series of fluidextracts of ergot the hydrogen-ion con-

TABLE II.—F. E. ERGOT. ORIGINAL ASSAY—110% BY THE BROOM AND CLARK AND 100% BY SMITH'S CHEMICAL METHOD. POTENCY AFTER SIX MONTHS' AGING AT ROOM TEMPERATURE.

F. E. Number.	Buffer, 2.5 Per Cent.	Acid.	p_H When Made.	p_H 6 Mo. Later.	Per Cent Activity. Broom and Clark Method.	Per Cent Activity. Smith's Chemical Method.
1		HCl	1.0	1.8	23	26
2		HCl	2.0	2.1	73	88
3		HCl	3.0	3.2	109	106
4		HCl	4.0	4.0	100	100
5		HCl	5.0	5.0	77	67
6		NaOH	6.0	5.7	64	68
7		NaOH	7.0	6.5	55	50
8			5.6	5.5	81	62
9	$NaH_2PO_4H_2O$		5.3	5.2	82	88
10	$NaH_2PO_4H_2O$	HCl	3.0	3.1	85	88.8
11	$NaH_2PO_2H_2O$		5.6	5.4	91	67
12	$NaH_2PO_2H_2O$	HCl	3.0	3.2	100	88
13	$Na_2S_2O_4$		6.6	6.7	88	100
14	$Na_2S_2O_4$	HCl	3.0	2.9	100	100
15		Tartaric	3.8	4.0	85	100
16	$NaH_2PO_4H_2O$	Tartaric	4.7	4.7	80	100
17	$NaH_2PO_2H_2O$	Tartaric	4.8	5.1	70	80
18	$Na_2S_2O_4$	Tartaric	4.9	5.3	83	100

centration appears to have some part in the stability of its activity. However, as previously reported (9) some fluidextracts of ergot deteriorate rapidly regardless of the hydrogen-ion concentration. This discrepancy cannot be explained at this time.

The addition of sodium dihydrogen phosphate, sodium dihydrogen hypophosphite or sodium hydrosulphite with or without acids, as shown in Table II, Nos. 9 to 18, inclusive, shows no marked loss of potency in six months' aging at room temperature. Sodium hypophosphate shows a greater loss than either sodium dihydrogen phosphate or sodium hydrosulphite. A comparative study of Tables I and II shows that the fluidextract with various hydrogen-ion concentrations, buffer or reducing agents deteriorates less in six months than the solutions of ergotamine tartrate. Apparently, *the fluidextract or the crude ergot drug contains some principle other than the alkaloids (ergotamine or ergotoxine) that aids in its stability.* There is also evidence, as recently reported by Moir (10), (11), that the ergot drug contains an unknown principle which has a much more rapid physiological action than either ergotamine or ergotoxine. A longer period of aging is required for this series of fluidextracts to show the value of the hydrogen-ion concentration, buffer and reducing agents. This series of fluidextracts will be reassayed at the end of 1 and 2 years' aging at room temperature. These results will be reported later.

CONCLUSIONS.

1. Various percentages of alcohol (40, 60 or 80 per cent) fail to prevent the deterioration of ergotamine tartrate.

2. A definite hydrogen-ion concentration appears to partially stabilize alcoholic solutions of ergotamine tartrate.

3. Sodium dihydrogen phosphate with acid (hydrochloric acid or tartaric acid) is more efficient in preventing deterioration of the alkaloid than without acid. The stability appears to be due to the acids rather than the buffer salt.

4. Sodium dihydrogen hypophosphite with or without the acids fails to stabilize the alkaloid.

5. Sodium hydrosulphite regardless of the hydrogen-ion concentration partially stabilizes the alkaloid.

6. The hydrogen-ion concentration still appears to have some influence in the stability of fluidextracts of ergot.

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THE LILLY RESEARCH LABORATORIES,
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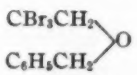
DERIVATIVES OF TRIBROMETHANOL: (AVERTIN) II.*

BY S. CHECHIK.

In a continued study of the formation of ethers of this compound, inability to use the very convenient Williamson reaction, namely, the interaction of the sodium alcoholate and an alkyl or acyl halide with the production of an ether, proved somewhat of a handicap. This method had to be avoided, because of the readiness with which tribromethanol goes to pieces in even dilute alkaline solutions. Willstäter and Duisberg,[1] in their original investigation of this compound, reported that when heated in NaOH solution, tribromethanol decomposes, accompanied by the evolution of carbon dioxide. Hence all reactions had to be carried out in neutral hydrocarbon media, which are by no means satisfactory if one has to resort to the sulphuric acid method for the production of ethers. The method has one distinct advantage, however, in that the reaction product can be thoroughly extracted free of the acid. The dry HCl method was also used with satisfactory results.

Tribromethanol-benzyl ether—



(*a*) *Sulphuric Acid Method.*—Five grams of avertin were dissolved in 50 cc. of freshly distilled anhydrous CCl_4 (b. p. 76–77°). To this solution were added, dropwise with vigorous stirring, 2.2 Gm. of sulphuric acid and the mixture refluxed for 20 minutes. The acid layer settles to the bottom and becomes tinged a faint yellowish brown. A mole (2.0 Gm.) of benzyl alcohol, freshly distilled, and boiling constantly at 204°, dissolved in 25 cc. of CCl_4 was then added slowly from a dropping funnel, after which the contents were refluxed for one hour. The upper, clear CCl_4 layer was then poured off, leaving a small light brown acid residue. The latter was thoroughly extracted with hot heptane, which solution, on strong chilling, yielded 1.0 Gm. of unreacted avertin crystals, m. p. 79–80°, when recrystallized twice from hot heptane.

The CCl_4 layer was distilled under vacuum until all the CCl_4 had been removed. The remaining viscous, straw-colored liquid was taken up in ether, the latter evaporated, and the oil refluxed in heptane, then chilled to 0° C., to crystallize any free avertin held in solution. Since this precaution yielded none, the heptane solution of the oil was then fractionated under a column. After all the heptane had been recovered at 97–98°, the oil was distilled over between 164–174°. 3.9 Gm. (59 p. c. yield) of the crude benzyl ether were obtained.

(*b*) *Dry HCl Method.*—A CCl_4 solution containing 5 Gm. of avertin was saturated with absolutely dry HCl gas, while the contents were held at the boiling point of the CCl_4. A CCl_4 solution of a mole of benzyl alcohol was then gradually added while the reaction mixture was being further saturated with HCl gas, and kept at a temperature of 75–77° C. After refluxing for two hours, strong cooling produced no excess avertin. By fractionation, 5.2 Gm. (78 p. c. yield) of the ether were obtained. The products of three preparations, the third yielding 12.2 Gm.

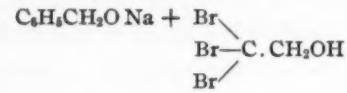
* For the first report see JOUR. A. PH. A., 21 (1932), 20.

[1] *Ber.*, 56 (1924), 2283–2286.

(90 p. c. yield), were then bulked and carefully fractionated, yielding a colorless oil, b. p. 172–174°. This ether is very irritating and lachrymating, not unlike the effect produced by benzyl bromide and other exceedingly offensive benzyl derivatives.

Bromine determinations by the Carius method revealed this compound to contain 63.6 p. c. and 63.0 p. c. Br, whereas the theory calls for 64.2 p. c. Its specific gravity, as determined by the pycnometer method, was found to be 1.703 and 1.708, respectively, at 20° C.

Dibenzyl Monobrom Ethyl Alcohol.—The penetrating irritability of the benzyl ether seemed to be a reasonable basis for predicting its pharmacological value as being out of the question. It seemed, therefore, of further interest to study the effect of introducing one or more benzyl ether groups on the opposite side of the tribromethanol molecule, as brought about by the reaction



From the above formulas it becomes apparent that a mono benzyl ether dibromethanol, a dibenzyl ether monobromethanol, and a tribenzyl ether of ethanol are theoretically possible.

Experimental.—To 40 Gm. of freshly distilled benzyl alcohol (204°), were added cautiously, accompanied by gentle heat, 8.0 Gm. of metallic sodium, to produce sufficient sodium benzylate equal to a three-mole equivalent. This mixture was heated until all the sodium had completely dissolved, whereby a thick white pasty mass formed, which when heated somewhat more changed to a yellow oil. To this were added 20 Gm. of avertin in 20 cc. of anhydrous ether, and the mixture refluxed under a spiral condenser on an oil-bath between 170–180° for 3 hours.

The mixture was allowed to cool, a liter of distilled water added, and the contents of the flask thoroughly agitated with a mechanical stirrer for an hour. The lower oily layer was then shaken out with ether, the ethereal solution filtered free of some flocculent resinous material, then fractionated to yield the following:

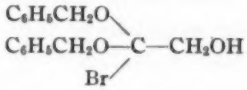
(1)	40–68°	—	2.5 Gm.—chiefly ether
(2)	195–200°	—	18.3 Gm.
(3)	203–204°	—	7.2 Gm.—benzyl alcohol
(4)	215–218°	—	8.2 Gm.
(5)	270–280°	—	2.9 Gm.—dibenzyl

All the fractions were colorless, possessing the characteristic sharp benzyl alcohol odor in varying degrees, but much milder than that of the previously described benzyl ether of tribromethanol.

The above procedure was repeated using half of the previous quantities with the following results:

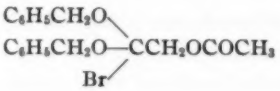
(1)	195–198°	—	6.0 Gm.
(2)	204°	—	2.4 Gm.—benzyl alcohol
(3)	214–217°	—	7.3 Gm.
(4)	230–240°	—	7.6 Gm.

Fraction 195–200°.—Both yields were bulked and carefully refractionated, collecting the portion distilling between 194–196°. This fraction contained 21.1 p. c. and 22.4 p. c. bromine. The theoretical for



is 23.6 p. c. bromine.

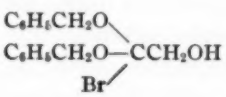
This oil was acetylated, forming a very penetrating liquid acetate which, when analyzed for bromine, was found to contain 19.9 p. c. in contrast to the theoretical for



which is 21.1 p. c. bromine.

Fraction 215–218°.—The bulked oil from both experiments was carefully refractionated, collecting the distillate between 216–218°.

This fraction contained 21.5 p. c. and 22.3 p. c. bromine, respectively, corresponding also to the configuration



This compound was also acetylated, yielding an equally sharp, somewhat lachrymating liquid acetate. Its bromine content was not determined.

Fraction 230–240°.—This was redistilled, but again came over between 230–240°, and judging from the low bromine contents (8 to 12.5 p. c.) is very probably a mixture of several substances, hence was not investigated any further.

Fraction 270–280°.—This oil distilled over very sharply between 285–286°. It contained no bromine and refused to acetylate. Dibenzyl boils at 284° C.

The pharmacological investigation of the derivatives of avertin described thus far will be reported elsewhere.

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QUININE HYDROBROMIDE WITH CHLOROFORM AND BROMOFORM OF CRYSTALLIZATION.

BY W. SCHNELLBACH AND JOSEPH ROSIN.

During our work on the solubilities of the U. S. P. chemicals, the solubility of quinine hydrobromide in chloroform was to be checked. The U. S. P. states that one Gm. quinine hydrobromide dissolves in 0.6 cc. of chloroform. Quinine hydrobromide contains 1 mol of water, or 4.26%. The material we used substantially contained this amount of water. When it was treated with the proportion of chloroform given in the U. S. P. a turbid solution resulted. This turbidity was attributable to the water in the quinine hydrobromide. Upon allowing the turbid

solution to stand at 25° C. for two days, well-formed, clear crystals separated. The quinine hydrobromide used consisted of small scale-like crystals. The crystals that separated from the chloroform solution were of a different type—stout and about 1/4" in size. It did not seem likely that the original quinine hydrobromide with its water of crystallization would have thus crystallized out, and the idea suggested itself that the salt had crystallized out with solvent of crystallization. A qualitative examination of the composition of the crystals, after removing adherent solvent, confirmed the surmise—they contain chloroform of crystallization.

To study the composition of the crystals, and with especial reference to the amount of chloroform of crystallization, experiments were made with a view to eliminate any other solvents that may interfere, such as the water present in the quinine hydrobromide and alcohol contained in U. S. P. chloroform. For this purpose two procedures were followed:

No. 1.—The quinine hydrobromide containing water of crystallization was treated with chloroform and warmed to aid the solution of the salt. To remove the water derived from the quinine salt and the alcohol from the chloroform, anhydrous calcium chloride was added to the solution and kept at about 60° for an hour or so, under a reflux condenser. It was then filtered, while still warm, and allowed to crystallize. The crystals were separated from the mother liquor by filtering with suction, and to remove adhering mother liquor they were washed a couple times by agitating with carbon tetrachloride and decanting. It was found that the product does not appreciably dissolve in carbon tetrachloride, and, consequently, its composition was not affected to a noticeable degree by washing it with this solvent. The crystals were then dried between filter paper and exposed to the air until they began to show a slight efflorescence. The product was then transferred into tightly stoppered bottles, or sealed in tubes.

No. 2.—The quinine hydrobromide was dehydrated by drying at 120° C. The chloroform was dealcoholized by shaking it with about one-fifth of its volume of concentrated sulphuric acid, washed with water to remove acid, and the water removed by allowing to stand with anhydrous calcium chloride with frequent agitation. The chloroform thus obtained was found to show a slight reaction for free chlorine after 24 hours, so it was freshly prepared when needed. The dehydrated quinine hydrobromide was dissolved in the chloroform at a slightly elevated temperature, filtered, if necessary, while warm, crystallized, washed with carbon tetrachloride and dried as described in procedure No. 1.

With either of these procedures we obtained the product in the form of relatively large, clear, colorless, or nearly colorless crystals, or in the form of white, or nearly white crystalline powder. The large crystals were most readily obtained by using a larger proportion of chloroform and allowing to crystallize by spontaneous cooling and evaporation. The crystalline powder was readily obtained by using about an equal weight of chloroform for dissolving the quinine hydrobromide and cooling the solution during the crystallization with running water, while stirring.

The product loses its chloroform of crystallization, or at least a part of it, quite readily on exposure to the air. Therefore, when obtained in the form of crystalline powder, greater efflorescence would be expected than with large crystals. Our object in preparing the powder form was to obviate, as much as possible, occlusion of solvent in the crystals.

The amount of chloroform of crystallization was determined from the loss by drying to constant weight under vacuum in a steam-jacketed tube. The following results were obtained:

Large crystals	41.8 and 42.3%
Crystalline powder, sample No. 1	37.0%
Crystalline powder, sample No. 2	37.9%

A sample of the crystalline powder, kept in a cork-stoppered bottle for nearly one year, lost 34.4% of its weight on drying in a similar manner.

The quantity of chloroform thus found in the product corresponds to 2.5 mols. The theoretical percentage for 2.5 mols is 42.4%. The difference between the percentage of chloroform found and the theoretical is most probably due to efflorescence, the crystalline powder, as would be expected, having effloresced more than the large crystals.

The proportion of acid, calculated as HBr, was also determined in a sample of the large crystals. For this determination the salt was dissolved in diluted alcohol and titrated with $N/10$ sodium hydroxide and thymolphthalein indicator.

Theory, for product with 2.5 mols $CHCl_3$, is 11.50% HBr. Found, 11.47, 11.65 and 11.44%; average 11.52% HBr.

The successful preparation of quinine hydrobromide with chloroform of crystallization led us to attempt to prepare quinine hydrobromide with bromoform of crystallization. A rough trial was made by dissolving anhydrous quinine hydrobromide in hot bromoform and allowing to crystallize. An impure crystalline mass was obtained which, after removing from mother liquor and washing to remove the solvent, proved to contain bromoform of crystallization.

The preparation of quinine hydrobromide with bromoform of crystallization in a pure state proved somewhat difficult, because of the ease with which bromoform undergoes decomposition. The best quality of bromoform available in commerce contains about 4% alcohol added as a stabilizer. The presence of the alcohol might interfere with the preparation of a product with bromoform of crystallization, either by increasing the solubility of the quinine hydrobromide, thereby suppressing crystallization, or by crystallizing with it. It was, therefore, necessary to use absolute bromoform. Such bromoform, however, is unstable, decomposes readily, some of the decomposition products, which may include free bromine, acting on the quinine and causing the solution to become dark and discolor the resulting product. After several attempts we finally succeeded in obtaining a tolerably pure crystalline product.

The best commercial bromoform available was dealcoholized by washing with water and drying over calcium chloride. Anhydrous quinine hydrobromide was dissolved in an excess of the bromoform, filtered, if necessary, and allowed to stand in the dark at room temperature. A dark syrupy mass resulted from which, upon long standing, a crystalline conglomerate separated. The crystalline mass was separated from the mother liquor, broken up into small fragments, washed with small quantities of cold absolute bromoform, until the washings ran colorless, or nearly so, and dried between filter paper and finally exposed to air for a short time. Attempts to carry out this preparation with the aid of vacuum did not improve the appearance or quality of the product.

The determination of the bromoform of crystallization by loss in weight on drying was unsuccessful. A sample kept under vacuum for 18 hours at 20° lost about 24%. When it was dried at 80° for 3 hours the total loss amounted to about 40%, which was not appreciably increased by longer drying at this temperature. Further drying at successive higher temperatures progressively raised the loss. At 120° C. the loss was nearly 70%, but the residue appeared much decomposed. We, therefore, had recourse to the determination of the total bromine. This determination was made by the method of Bacon.[1]

The analysis of two samples gave the following results:

0.4013 Gm. substance required 31.58 cc. 0.1 *N* $AgNO_3$ equivalent to 62.9% bromine
0.4710 Gm. substance yielded 0.7240 Gm. AgBr equivalent to 65.5% bromine

The bromine found in the preparation approximates two mols of bromoform. The theoretical bromine for quinine hydrobromide with two mols of bromoform is 61.4%.

Attempts to titrate the hydrobromic acid, as was done in the case of the crystals containing chloroform of crystallization, failed. The acid found was higher than the theoretical amount corresponding to two mols of bromoform. The reason for this we ascribe to the decomposition of bromoform when in contact with alkali during the titration.

We expect to continue our investigation for an improved method for the preparation of the bromoform compound, and to study the physical and chemical properties of the new compounds.

SUMMARY.

Two crystalline compounds of quinine hydrobromide with trihalogenmethane of crystallization have been prepared and their composition established. One contains two and one-half mols of chloroform and the other two mols of bromoform of crystallization. Their chemical and physical properties will be reported at a later date.

MICROSCOPIC IDENTIFICATION OF EPHEDRINE WITH NITROUS ACID.

BY FREDERICK GRILL.*

It has been suggested that a more efficient means be developed of identifying ephedrine microscopically. Ephedrine appears to crystallize slowly with the usual alkaloidal reagents and sometimes the crystals are not characteristic. Tsiang and Brown (1) have obtained well-defined crystals from solutions of ephedrine using gold chloride, platinic chloride and Kraut's reagent. However, it would seem that the crystals appear rather slowly at times with the reagents mentioned.

The purpose of this paper is to present another means of identifying ephedrine by the formation of characteristic crystals, using nitrous acid.

The structural formula of ephedrine shows it to be a secondary amine of the aromatic series (2).

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[1] *J. Am. Chem. Soc.*, 31 (1909), 50.

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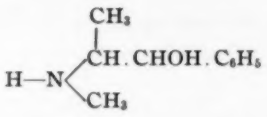
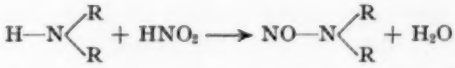
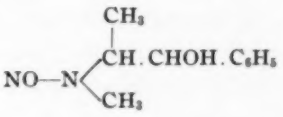


Secondary amines react with nitrous acid to form a nitroso compound according to the general equation:



It follows that ephedrine should react in a similar manner with nitrous acid to form a nitroso compound as follows:



The nitroso compound crystallizes and may be identified microscopically.

A solution of ephedrine hydrochloride (1:100) was treated as follows:

To one drop of the ephedrine solution on a slide, add one drop of a freshly prepared saturated solution of potassium nitrite, and one drop of a 6 *N* solution of sulphuric acid. An amorphous white precipitate was formed. After the liquid had evaporated, long crystals, with or without terminal branching, were observed.

The white precipitate does not always appear.

Comparative crystallizations were made using single reagents and combinations of reagents.

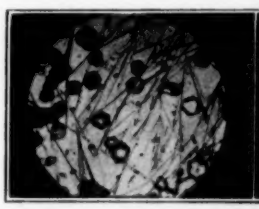


Fig. 1.—Crystals formed by treating ephedrine hydrochloride solutions with nitrous acid.

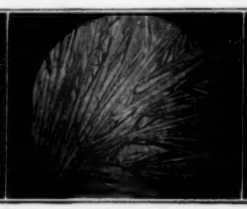


Fig. 2.—Ephedrine hydrochloride.

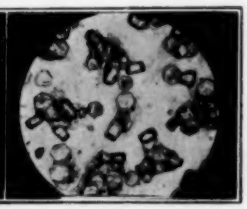


Fig. 3.—Saturated solution potassium nitrite and 6 *N* sulphuric acid.

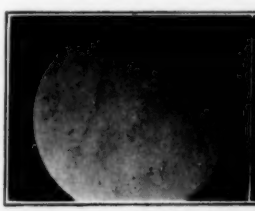


Fig. 4.—Ephedrine hydrochloride and 6 *N* sulphuric acid.

Fig. 5.—Ephedrine hydrochloride and saturated solution potassium nitrite.

Comparative crystallizations were made using the same procedure as outlined for ephedrine but substituting other alkaloids:

Adrenalin	Hexagonal plates.	Aconitine	Crystals not characteristic.
Morphine	Hexagonal plates.	Berberine	Crystals of berberine sulphate.
Quinine	No crystals.	Strychnine	Crystals not characteristic.

1:100 solutions of ephedrine appear to give the best crystals with nitrous acid. Crystallizations have been made from 1:500 solutions of ephedrine hydrochloride; however, solutions to be tested should be more concentrated. An excess of potassium nitrite was used in order to obtain a minimum residual sulphuric acid. An excess of sulphuric acid might cause the formation of ephedrine sulphate. There are other crystals formed in the procedure which are possibly potassium acid sulphate. The nitroso compound, presumably formed with ephedrine, may be extracted with ether and ephedrine hydrochloride reformed by the addition of dilute hydrochloric acid.

SUMMARY.

1. Ephedrine hydrochloride reacts with nitrous acid yielding a product which is, perhaps, a nitroso compound analogous to the nitroso compounds formed by secondary amines of the aliphatic series and nitrous acid.

2. The reaction appears to give characteristic crystals for ephedrine.

3. The method is rapid and quite easy to carry out.

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(2) C. W. Porter, "The Carbon Compounds," 2nd Revised Edition (1931).

ENDOWMENTS FOR PHARMACY.

The following resolution (No. 17) was adopted at the Toronto meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION. It is hoped that pharmacists will bear this resolution in mind whenever a favorable opportunity is presented.

WHEREAS, many large fortunes have been built largely through sales in retail drug stores and through other pharmaceutical activities, and

WHEREAS, the possessors of many of these fortunes have not been made acquainted with the endowment needs of pharmacy at a time when they were planning the disposition of their wealth, with the result that the proportion devoted to pharmacy, as compared with other professions is not in keeping with its importance and with its services to humanity, and

WHEREAS, the needs of the American Institute of Pharmacy in Washington, of the many Schools and Colleges of Pharmacy throughout the land, of the necessary researches and surveys in the professional and economic phases of pharmacy, particularly in the improvement of standards and of proper publicity for pharmacy are very great and pressing, if the profession is to fully discharge its obligations, and

WHEREAS, such endowments would not only place pharmacy in a position conforming to its importance but would also enable it to increase its contributions to the comfort and safety of life, and

WHEREAS, it is necessary and timely that it be explained in a dignified but forceful manner, that a proper proportion of the means made in pharmacy should be devoted to its advancement

Resolved that the AMERICAN PHARMACEUTICAL ASSOCIATION coöperate with other organizations in this important effort.

BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

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MERCURY OINTMENT.

BY C. B. JORDAN, *et al.*

In the paper by Broady and Jordan, JOUR. A. PH. A., 16 (1927), 425–430, they recommended that mercury ointment be prepared by reducing mercuric chloride to metallic mercury in colloidal form and then incorporating this with the base. The formula and procedure recommended by them are:

"Mercuric chloride	40	Gm.
Sodium hydroxide, sticks	40	Gm.
Gelatin, leaf	2.5	Gm.
Liq. formaldehyde, 40%	20	Gm.
Anhydrous lanolin	25	Gm.
White petrolatum, *q. s. ad*	100	Gm.

"Dissolve the gelatin and NaOH in 200 cc. of H_2O with heat. *Cool* and add the solution of HCHO. Dissolve the $HgCl_2$ in 200 cc. H_2O by aid of heat. While still hot, add slowly and with stirring to the solution of NaOH, HCHO and gelatin. This should be done slowly and with care. Allow the precipitate to settle completely and decant. Wash the precipitate by decantation with two successive portions of 200 cc. of H_2O, allowing the precipitate to settle each time. Filter and transfer the precipitate *while still moist* to a mortar and add 25 Gm. of anhydrous

lanolin and thoroughly mix. Add enough white petrolatum to make 100 Gm. and mix thoroughly.
"Caution. Do not allow the precipitate to dry on filter."

"All of our freshmen students made good mercurial ointments by this method, and the time required was about one hour. The portion of Hg up to 60% can be varied at will. We do claim that this method is better than the one in vogue for the following reasons:

1. The ointment can be prepared in less time.
2. It is easier to prepare it.
3. The free Hg is in a much finer divided condition and therefore of greater therapeutic value."

Mercury ointment made by the reduction process has been the subject of study at the Purdue School of Pharmacy for the past four years. C. O. Lee and H. G. Dekay have instructed their classes in manufacturing pharmacy to prepare it, using slight modifications of the original formula. The ointment offered two problems, *first*, a finely divided mercury settled slowly and time was lost in washing it; *second*, if care was not used some of the mercury was lost in the washings and the ointment was substandard. One modification that was used is as follows:

Mercuric chloride	24	Gm.
Sodium hydroxide	24	Gm.
Gelatin, leaf	1.25	Gm.
Liq. formaldehyde, 40%	12	Gm.
Anhydrous lanolin	12.5	Gm.
White petrolatum, *q. s. ad*	50	Gm.

Dissolve the gelatin and NaOH in 100 cc. of water with heat. Cool and add the solution of HCHO. Dissolve the $HgCl_2$ in 100 cc. of water by aid of heat. The gelatin, NaOH, HCHO solution should be cooled to 40° C. and the $HgCl_2$ solution to 80° C. Pour the hot $HgCl_2$ solution slowly and with stirring into the gelatin, NaOH, HCHO solution. Allow the precipitate to settle and decant. Wash the precipitate by decantation with two successive portions of 200 cc. of water, allowing the precipitate to settle each time. Transfer the moist precipitate to a pill tile and incorporate thoroughly with the anhydrous lanolin. Then add enough white petrolatum to make 50 Gm. and mix thoroughly.

TABLE I.—THEORETICAL PER CENT OF MERCURY.

Student.	31%.	31%.	32%.	32%.	50%.
No. 1	21.78	28.66	28.88	29.99	..
	21.70	28.48	28.97	29.60	..
No. 2	25.32	24.43	26.48	24.41	..
	25.37	24.64	26.91	24.43	..
No. 3	29.54	19.54	28.13	28.62	..
	29.67	19.52	28.15	28.66	..
No. 4	28.67	30.57	29.69	29.56	..
	28.62	30.35	30.00	29.29	..
No. 5	28.13	35.07	27.83	28.48	..
	28.13	35.78	27.92	28.32	..
No. 6	28.40	...	31.07	29.04	49.74
	28.47	...	31.01	29.76	49.68
No. 7	30.16	27.76	28.21	27.72	..
	30.10	27.52	28.08	27.17	..
No. 8	22.20	29.37	32.31	23.63	..
	22.07	29.72	32.10	23.84	..

Eight sophomore students prepared ointments by this formula. The ointments were excellent as to appearance and smoothness, but these students had little training in technique and they lost mercury in the washing process as Table I indicates.

These ointments were assayed by E. H. Westlund, a graduate student at Purdue.

The varying results obtained by the same student indicates a lack of care in preventing loss of mercury. Student No. 4 was a Junior and a careful worker as his results indicate. Students Nos. 6 and 7 were also recognized as more careful workers than many of their classmates, and their results so indicate.

At the request of Chairman Leonard Seltzer, of the Sub-Committee on Ointments of the U. S. P. Revision Committee, further study was given to this problem last summer, using seniors and graduate students. The formula and process used were as follows:

UNGUENTUM HYDRARGYRI MITE.

Bichloride of mercury	26	Gm.
Sodium hydroxide	13	Gm.
Gelatin leaf	1.5	Gm.
Liq. formaldehyde	15	cc.
Anhydrous lanolin	18	Gm.
White petrolatum, *q. s. ad.*	60	Gm.

(1) Dissolve the sodium hydroxide and gelatin in about 100 cc. of distilled water, in a beaker.

(2) Dissolve the mercuric chloride in 125 cc. of boiling water and add it to (1) with stirring.

(3) To this add the solution of formaldehyde and stir.

(4) Cool and, when the precipitate has settled, decant the supernatant liquid.

(5) Wash the precipitate with 100 cc. of water and decant as before.

(6) Wash the precipitate into a tared porcelain dish, allow to settle, decant as closely as possible and without delay mix the precipitate with the anhydrous lanolin.

(7) Add enough white petrolatum to make 60 Gm. Heat on a water-bath until soft and mix thoroughly. Stir gently until congealed.

Table II shows results obtained.

TABLE II.

Sample Number.	Person Making.	Per Cent Hg.
10	LeBlanc	30.49
11	LeBlanc	30.78
12	LeBlanc	29.65
1	Close	31.32
2	Close	29.85
4	Close	25.53
1	Findley	31.14
2	Findley	31.55
1	Ford	27.73
1	Haines	19.51

F. J. LeBlanc assayed these ointments and his comments on these are as follows:

"Samples 10, 11, 12 were carefully made by myself.

"Samples 1, 2, 4 were made by Mr. Close. He states that one of his samples was placed in the oven for a time. He does not remember which sample. From the results obtained on assay of his ointments probably No. 1 had lost some moisture by being in the oven and, therefore, the high result. Have no explanation for the low result of No. 4 other than that directions probably were not as carefully followed as they might have been.

"Samples 1 and 2, made by Mr. Findley, show a little over 31 per cent of Hg, but he used a formula that called for a 32 per cent theoretical yield of mercury. I supervised the making of Mr. Findley's ointments and gave him several suggestions while he was working.

"Sample 1, made by Miss Haines, was made by the filter paper method. Evidently considerable Hg was lost by this method as her ointment only gave 19.51 per cent Hg on assay."

Some workers have had difficulty in getting the mercuric chloride in solution and keeping it from crystallizing out before the solutions were mixed. The staff of the Detroit City College of Pharmacy complained of this and suggested that some sodium chloride be used to make the mercuric chloride more soluble and thus permit the use of lower temperatures in the manufacturing process.

W. A. Prout, a graduate student at Purdue, worked on the problem this summer, using the suggestion of the addition of sodium chloride. He made a great many ointments, varying the amount of sodium chloride used, the temperature at which reduction was accomplished and changing the order of mixing. As a result of these many experiments he recommends the following formula and procedure:

UNGUENTUM HYDRARGYRI FORTIUS.

Mercuric chloride	42.25 Gm.
Sodium chloride	5.00 Gm.
Sodium hydroxide	21.00 Gm.
Leaf gelatin	2.4 Gm.
Liq. formaldehyde	25.00 cc.
[1] Purdue base, *q. s. ad.*	60.00 Gm.

[1] Purdue base consists of the following:

White wax	5 Gm.
Anhydrous lanolin	5 Gm.
Petrolatum, white	90 Gm.

Melt the wax on a water-bath, add the petrolatum and allow it to melt and then add the lanolin. When all is melted, stir just enough to insure thorough mixing and set aside to congeal.

(1) Dissolve the sodium hydroxide and gelatin in 100 cc. of distilled water in a beaker.

(2) Dissolve the mercuric chloride and sodium chloride in 100 cc. of distilled water heated to 60° C.

(3) Immediately pour Solution 2 into Solution 1 with gentle stirring. Add the formaldehyde and stir rapidly with a rubber-tipped rod, to insure thorough mixing. Place the beaker in cold water and continue stirring until the temperature is down to 40° C.

(4) Allow the precipitate to settle. Decant the supernatant liquid and wash with 200 cc. of distilled water with a minimum disturbance of the precipitate. Again decant after settling.

(5) Wash the precipitate into a tared dish using about 150 cc. of distilled water. When the precipitate has settled, decant the supernatant liquid as closely as possible and immediately add the required amount of base and mix thoroughly.

This gives a fine ointment of good texture, smooth and uniform. Mr. Prout made a number of samples by this procedure and assayed them for mercury content.

His results are shown in Table III.

TABLE III.

Sample No.	Assay.	Sample No.	Assay.
1	52.09%	4	50.7 %
	52.18%		50.8 %
2	49.2 %	5	50.1 %
	49.5 %		50.04%
3	49.4 %	6	50.1 %
	49.1 %		49.84%

All of these ointments except the first fall within the U. S. P. purity rubric limits and, therefore, meet the U. S. P. requirements for this ointment.

The dilute ointment of mercury can easily be made by mixing a sufficient amount of the stronger ointment with sufficient base to produce the required percentage of mercury. The larger the amount of ointment that is prepared at any one time, the less the danger of error. It is, therefore, recommended that the stronger ointment be prepared and the dilute ointment made from it when needed.

The advantages of this method of preparing mercury ointment are:

(1) The ointment can be prepared in less time. (Requires about one hour.)

(2) It is easier to prepare. The old trituration procedure was not only time-consuming but also very tiresome.

(3) The free mercury is in a much finer divided condition and therefore ought to be of greater therapeutic value.

The disadvantage of the method is in the danger of loss of mercury in washing. However, in the hands of a careful worker, this disadvantage is reduced to a minimum, as shown by the work of LeBlanc, Prout and others. This formula and procedure are recommended for the favorable consideration of the Sub-Committee on Ointments of the U. S. P. Revision Committee.

AN OINTMENT BASE FOR OFFICIAL OINTMENTS.*

BY C. O. LEE AND H. G. DEKAY.

The criticisms of the official ointments are in a large measure traceable to their bases. The usual story about them is that they become rancid or grainy or both, or are too stiff or too soft. It is too much to expect any class of preparations to be without fault, but constant effort to improve them is the pharmacist's responsibility.

In his "Summary of Comments," Seltzer,[1] among other things, reported on thirteen ointments of the Pharmacopœia. Ten of the thirteen comments are definite proposals for changes in the present bases. To us the suggested changes are well founded.

An ideal ointment base is, of course, a pharmaceutical dream that has never come true and perhaps never will. We should, however, continue to dream and to strive for galenical ideals. If the present Committee of Revision takes cognizance of the suggestions that are now being made with reference to ointments, the forthcoming Pharmacopœia will have an improved list of preparations from the pharmaceutical point of view. Formulas that have remained unchanged through a

* Section on Practical Pharmacy and Dispensing, A. PH. A., Toronto meeting, 1932.

[1] U. S. P. XI Bulletins, Sub-Committee 13, Bull. 14, page 19 (1931).

number of revisions of the Pharmacopœia have a fair chance of being revamped. We are all hopeful of many improvements in our official ointments.

A brief review of some of the criticisms that have been offered will help us to see ointment problems more clearly. The reader is referred to the various U. S. P. XI Circulars and Bulletins of Sub-Committee 13 for the following proposed changes: Concerning Unguentum, it is proposed to replace lard by white petrolatum or hydrogenated oil, or at least introduce the petrolatum base as an alternative. It has been suggested that the almond oil in *Unguentum Aquæ Rosæ* be replaced with hydrogenated oil or liquid petrolatum. The use of 30 per cent of wool fat in *Unguentum Belladonnæ* is questioned. It is recommended that the wool fat in *Unguentum Chrysarobini* be replaced by petrolatum. The stickiness of *Unguentum Hydrargyri Ammoniati* is too well known and objectionable. To correct this, it is suggested that wool fat be omitted from the formula. Wool fat is used in *Unguentum Hydrargyri Oxidi Flavi* and *Unguentum Iodi* presumably to aid absorption. Since neither preparation is intended to be absorbed, the omission of wool fat in these formulas is advised. Unguentum Sulphuris has been a pharmaceutical abomination altogether too long. Lard in this formula should certainly be omitted and petrolatum will likely replace it. As for *Unguentum Zinci Oxidi*, we have heard no defense of the present formula and an improvement in this ointment both as to base and to technique of manufacture is imperative. Much more could be cited concerning the need and the urge for improvements in the official ointments, but this will suffice for the present.

We, at Purdue, became interested in ointment bases through our efforts to meet the request of our athletic department for a softer ointment of Zinc Oxide, which, it was claimed, was so harsh when cold that the athletes objected to using it. Our work with this preparation was reported in a paper at Miami last year.[1] The base which we reported was composed of anhydrous lanolin 5%, paraffin 5% and white petrolatum 90%. These were carefully fused upon a water-bath. It was also suggested that the paraffin could be replaced by white wax or cetaceum. We felt then, as we feel now, that a simple compound base of this kind has many favorable qualities. "It is simple in composition and very easy to make. Its consistency and keeping qualities are good. In fact, there is no reason why it should not prove to be a good stock base for a number of ointments."

During the past year this base has been used many times in making the official ointments as a matter of study and comparison. With the exception of Ointments of Rose Water and Pine Tar, it works very well. For these, additional amounts of wax are needed. Advanced undergraduate and graduate students have been asked to make various ointments using both the official bases and the one we have proposed. The praise almost invariably has been in favor of the new base.

In the zinc oxide ointment formula that we proposed last year, 12 Gm. of glycerin per 100 Gm. of ointment were used to levigate the zinc oxide previous to incorporating it in the base. Objections were made to the use of glycerin, and castor oil was suggested in its place. We mention this, here, because, if the zinc oxide is levigated with a portion of the melted proposed new base, as the official

[1] Jour. A. Ph. A., 20 (1931), 779.

directions state, the finished product will be a little too stiff and much more work will be needed to get a smooth ointment.

In a communication to Chairman Seltzer of Sub-Committee 13, we suggested that the new ointment base which we have been discussing would make a good Simple Ointment. Bibbins[1] and Lascoff independently submitted a formula for Simple Ointment, each containing the same ingredients but in different proportions. For purposes of comparison, these three formulas are shown in Table I below.

TABLE I.

Ingredients.	Lascoff Formula, Grams.	Bibbins Formula, Grams.	Purdue Formula, Grams.
White wax	90	60	50
Anhydrous wool fat	120	90	50
White petrolatum	390	450	900

These formulas differ in consistency of the finished product. As to this quality, who is to decide? It is our feeling, however, that Simple Ointment is designed to be used as a diluent in ointment mixtures or as a base for certain simple prescriptions as the occasion arises. In either case, it should not be too stiff, which, we believe, is the case with the present Simple Ointment.

We wish to conclude by saying that we have no argument for the use of a mixed base, largely composed of petrolatum, where animal fats or vegetable oils are therapeutically indicated. In all other instances, we believe that a simple compound base, in the nature of those given in Table I, is a great improvement over any that are now official. It is certainly much better than petrolatum alone. A base such as has been proposed does not solve all of our ointment ills, but it alleviates a number of them.

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DISPERSED PHASE FLAVORS IN EMULSIONS.*

BY W. PAUL BRIGGS.[1]

The purpose of this report is to describe a slight modification of the technic commonly employed in flavoring emulsions to improve their palatability. No new flavors will be suggested since this paper deals with the methods of employing flavors and not with the quality or advantages of any particular flavor.

The first mention of Emulsions occurs in the Edinburgh Pharmacopœia of 1839. In 1870 a formula was published for a preparation very similar to Emulsion of Cod Liver Oil called Cod Liver Cream. Emulsions as a class were not admitted to the United States Pharmacopœia until the seventh revision when the Emulsions of Ammoniac, Almond, Asafetida and Chloroform were recognized. However, for several revisions previous to 1890 Emulsions of Ammoniac and Al-

[1] U. S. P. XI Bulletins, Sub-Committee 13, Bull. 31, page 70 (1932).

* Section on Practical Pharmacy and Dispensing, A. PH. A., Toronto meeting, 1932.

[1] Associate Professor of Pharmacy and Dean of The School of Pharmacy of The George Washington University.

mond were official but were designated as Mixtures. Emulsion of Cod Liver Oil was first recognized in the U. S. P. of 1900.

Dr. William Clayton in his comprehensive treatise, "The Theory of Emulsions," cites over 400 references from the current literature dealing with the innumerable problems and theories of emulsification. A great amount of research has been done on emulsions by physical chemists and others but to-day their is little agreement on the problem. As pharmacists, however, we are more concerned with the preparation of permanent, attractive and palatable preparations than with the underlying theories involved. Through the efforts of many able pharmacists we have to-day methods of preparation, and emulsifying agents, which appear quite satisfactory for practical purposes. I shall discuss only the problem of rendering medicinal emulsions more acceptable to the patient. This limited group, intended for internal administration, consists almost entirely of oil-in-water emulsions, of which Emulsion of Cod Liver Oil can be considered as a type and upon which this work was done. For the purpose of discussion may we at least tentatively accept the pharmaceutical definition that "Emulsions are homogeneous mixtures of immiscible substances (usually liquids) held by the intervention of an intermediate agent?" The intermediate agent or emulsifier is acacia in the case of Emulsion of Cod Liver Oil and in most other official emulsions. Acacia is water soluble, therefore producing an oil-in-water emulsion in which the oil droplets are dispersed through a continuous phase of water.

May I be permitted to attempt to draw a mental picture of an oil-in-water emulsion so that the reasons offered for this proposed method of flavoring will be clear? Scoville, Bentley and others describe an emulsion of this type as essentially composed of droplets of oil which are completely surrounded by droplets of water. Thus the oil globules are prevented from coalescing by the immiscible film which surrounds them. The emulsifying agent (acacia) which permits oil and water to be mixed in a homogeneous state performs three functions: (1) it lowers the surface tension of the water, (2) it increases the viscosity of the mixture thus retarding separation and (3) it prevents the coalescence of the oil globules by surrounding each globule with an immiscible film. This brief description is intended solely to cover the pharmaceutical aspects of an emulsion and does not attempt to reconcile the many controversial theories of the structure of emulsions in the physical sense.

Visualize now a single droplet of cod liver oil completely surrounded by an immiscible film of acacia and water as the primary nucleus of the emulsion. To this we add methyl salicylate, which is immiscible with the acacia and water film and therefore cannot mix with the cod liver oil at the center. It therefore must remain suspended in the continuous phase or in other words in the water. This represents the condition of Emulsion of Cod Liver Oil as made by the U. S. P. X method. The odor and taste of the methyl salicylate predominates when the emulsion is first swallowed because it is present in the continuous phase. Up to this point the emulsion is quite satisfactory but when the emulsion state is broken in the stomach the masking effects of the flavor is lost and the patient if and when he belches tastes cod liver oil.

The problem as here pictured is to so flavor the dispersed phase or the cod liver oil that even when the emulsion is broken down in the stomach the flavor will

remain dissolved in the oil and thus continue to disguise its taste until such time as the danger of belching has passed. However, the continuous phase must also carry some flavor to render the product palatable at the time it is taken. It has been found possible to accomplish these objectives without increasing the quantity of flavor now used.

A study of the pharmacopœias and formularies of American and European nations reveals the fact that in every case where the Continental method of emulsification is followed the flavoring agent is added to the primary emulsion. This is generally the case as well when the English method is followed, and also when tragacanth, egg yolk or other emulsifiers are used. To state the procedure in definite terms allow me to quote the U. S. P. X directions for preparing Emulsion of Cod Liver Oil:

> "Thoroughly mix the acacia with the cod liver oil in a dry mortar or other suitable vessel, then add at once 250 cc. of water, and complete the emulsification by trituration or by the aid of a suitable mechanical device. When a thick, white, homogenous mixture is obtained, add the methyl salicylate and the syrup with sufficient water to make the product measure 1000 cc. and mix thoroughly."

This method of flavoring is and has been in general practice since the beginning of the use of emulsions as a means of rendering more acceptable unpleasant drugs. A careful search has failed to show why the procedure was adopted or that it has ever been challenged.

That the method of the U. S. P. X for preparing this preparation and the same general technic which is followed in the case of most other emulsions yields a preparation having the odor of the cod liver oil covered is not questioned. Further, the taste, when first swallowed, is that of the flavor. The point at issue is that in a majority of individuals the irritation that follows the ingestion of cod liver oil causes belching and occasionally regurgitation. Under these conditions the cod liver oil is distinctly tasted and the patient frequently refuses to continue the treatment. It is believed that this is caused by the fact that in the stomach the emulsion is cracked and that the pronounced and unpleasant taste of the oil is noticed because it has been separated from the flavor. It is contended that this is due to the method of preparation where the flavor is added to the continuous phase and its power to cover the odor and taste of the cod liver oil is lost as soon as the emulsion state is altered by the stomach.

This is, of course, theoretical speculation but clinical tests seem to sustain the theory. Twenty-six four-ounce bottles of U. S. P. X Emulsion of Cod Liver Oil were distributed to students of The George Washington University. The bottles were labeled only by number with directions for taking. Ten students tasted cod liver oil and 16 tasted wintergreen when swallowed; 18 reported belching after a short time and of these 11 tasted cod liver oil and 7 tasted wintergreen. From this we assumed that approximately two-thirds of the patients taking cod liver oil suffer from belching afterward, and of those who did belch 60% tasted cod liver oil while only 38% tasted it at the time the emulsion was swallowed. The increase in the number who tasted cod liver oil after belching, over the number who tasted the oil when swallowed is significant. It is possible that this can be explained by the probable breakdown in the emulsion state, when belching would cause the cod liver oil to be tasted rather than the flavor.

With these findings in mind 26 new samples were prepared and labeled as before. In this batch the same ingredients and quantities were used but $^3/_4$ of the quantity of methyl salicylate specified (4 cc. per 1000 cc.) was dissolved in the cod liver oil before being emulsified. The remainder of the methyl salicylate was added after the primary emulsion had been made. This was expected to give a part of the flavor dissolved in the dispersed phase and a part in the continuous phase. Thus, theoretically at least, offering an Emulsion of Cod Liver Oil which possessed the odor and taste of wintergreen at the time swallowed and also preventing a taste of cod liver oil if belching followed. Except for this slight modification the second group of samples was identical with the first group. This change was predicated upon the assumption that since the flavor was miscible with the cod liver oil and was emulsified with it as a part of the dispersed phase, the flavor would remain to disguise the taste of the oil until such time when the possibility of belching was passed. There was no noticeable difference in the odor of the finished products and the students taking the preparation were unaware of any change.

These samples were distributed as before with the following results: 11 reported tasting cod liver oil when swallowed and 15 tasted wintergreen, of the total group of 26, 19 reported belching and 4 of these tasted cod liver oil while 15 tasted wintergreen. Compared to the results reported with the U. S. P. X emulsion we find essentially the same reaction to taste at the time of swallowing, approximately the same proportion belched after taking, but of those who belched only 22% tasted cod liver oil while in the U. S. P. X sample 60% tasted cod liver oil. With the modified sample 78% of those who belched tasted wintergreen while with the U. S. P. X emulsion only 38% tasted wintergreen. Making due allowance for the absence of exact control methods and differences in individual tastes the results of this limited experiment would seem to favor the principle of flavoring the dispersed phase of an emulsion where that phase possesses an undesirable taste or odor. To accomplish this the agent added to disguise taste or odor must be oil soluble. It is not thought that all of such agent should be mixed with the dispersed phase, since this would probably lessen the pleasing odor of the finished product, but arbitrarily it is suggested that $^3/_4$ of the usual quantity employed be incorporated with the oil before emulsifying. The remainder to be added in the usual way to the finished product.

In conclusion the results of this experiment indicate, (1) that the present method of flavoring emulsions disguises the odor and taste of the oil only when swallowed and in a large majority of the individuals who belch after ingestion of the emulsion, the taste of the oil predominates, the flavor failing to supply the covering properties as intended, and (2) that by dissolving a portion of the flavor in the oil before emulsifying, and adding the remainder of the flavor after the nucleus is formed, no loss of palatability at the time of ingestion is observed and in addition the taste of the oil if belched is masked by the flavor which was added directly to the oil. Further, no increase in the quantity of flavor now used is necessary. Only oil-soluble flavors such as the volatile oils, vanillin, etc., should be used in the dispersed phase, although water-soluble substances such as syrups, tinctures and elixirs may be used to advantage in the continuous phase to render the product as a whole palatable.

FORMULATED PRESCRIPTIONS ON THE INCREASE.*

BY FREDERICK J. WULLING.[1]

"Back to pharmacy" is the desire of an ever-increasing number of pharmacists. Some are going back to exclusive practice, but many more are striving earnestly to rehabilitate and increase their waning professional practice under their present situations which preclude the elimination of trade entirely. That phase of their activities given to prescription dispensing can be stimulated successfully through work with physicians. It has been demonstrated in Minnesota that physicians can be made to realize that they can advance the interests of their patients and themselves by formulating their prescriptions in all possible cases upon the bases of the United States Pharmacopœia and the National Formulary. When he saw the light, a certain physician ceased telling his patients to get certain proprietaries which he designated by word of mouth or by scribbling the name of the recommended proprietary or drug upon any handy scrap of paper. There is evidence that he so scribbled for over a dozen popular proprietaries and such drugs as aspirin, acetanilid and caffeine, mild silver protein, epsom salts, a popular antiseptic solution and even sulphonal and urotropin, telling the patient to ask the druggist how to use them. He wrote very few prescriptions. Now, as a result of work with him and other medical practitioners by pharmacists, he writes prescriptions exclusively and mostly for N. F. preparations. His was an extreme case. The pharmacists convinced him that his desire to save his patients money for medicines had the effect of lessening the confidence in him of his clients and hence diminishing his practice instead of increasing it.

The intention of this paper is to report the work the pharmacists of the Twin Cities and vicinity did with local doctors. The Minneapolis Retail Druggists' Association succeeded easily in establishing affirmative contact with the Hennepin County (Minneapolis) Medical Society. The writer was invited twice to address the medical society on medical and pharmaceutical relation and on the U. S. P. and N. F. These addresses were received not only acceptably but enthusiastically and as a result there was created an Interprofessional Committee made up of sub-committees from the M. R. D. A. and the medical society. This joint committee did splendid and really effective work and pharmacists throughout the city reported an increasing number of prescriptions calling for official and N. F. items and of preparations the pharmacists could prepare themselves.

Previously I had given upon my own initiative, or upon invitations, addresses to physicians in many parts of the state, at Duluth, Marshall, Fergus Falls, Alexandria and other towns, always being received by the physcians with the greatest cordiality and professional sympathy and courtesy. Two physicians accepted my invitation to address pharmacists before the Scientific and Practical Section of the State Association: Dr. Rowntree, of the Mayo Clinic of Rochester, and Dr. Meyerding, executive officer of the state medical association. Both were in heartiest sympathy with the efforts and approaches of the pharmacists and promised every coöperation.

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* Section on Practical Pharmacy and Dispensing, Toronto, Canada.

[1] University of Minnesota.

With these preliminaries the Interprofessional Committee found its way well paved for subsequent work. The chairmen of the two composing sub-committees, Mr. Harry H. Gregg, Jr., and Dr. John O. Taft, did especially good work. They invited me to outline a plan of work to the Interprofessional Committee and I did so at one of their numerous luncheon meetings at the medical society's headquarters. I was then invited to give a course of twelve lectures to physicians on prescription formulation to fit presented diagnoses, but I thought it would be much wiser and more consistent if such a course were given by a physician and duly last winter a course was arranged under the auspices of the Department of Pharmacology of the University of Minnesota Medical School. Dr. Hirschfelder, head of the Department, gave the course of eight lectures open to both physicians and pharmacists. The lectures were well attended and their value generally attested, but it was thought they should be supplemented by a pharmacist giving demonstration of dispensing to bring out the need of correct usage of weights and measures and the obviation of incompatibility, etc. Accordingly the College of Pharmacy of the University of Minnesota was called upon for assistance and upon my nomination Mr. Chas. V. Netz gave the desired two lectures and demonstrations, to whom was accorded enthusiastic applause by the many doctors who attended.

This work proved so successful that the Interprofessional Committee felt encouraged to expand its work. Accordingly it arranged for a very representative professional pharmaceutical exhibit at the annual meeting of the state medical association held at the auditorium in St. Paul during the week beginning May 23rd. The exhibit was in the continuous charge of Twin City pharmacists who made frequent demonstrations and distributed printed literature prepared with much care especially for the purpose. Some of that literature is now circulating among those present who are interested in it. The exhibit occupied two booths. It was visited by practically every physician attending the convention and aroused unusual interest among the doctors who came from all parts of the state. Judging from their appreciative and often laudatory remarks they all took helpful suggestions and influences with them to their respective districts.

The surprising thing about this work was the splendid reception and cooperation given it by the physicians themselves. They were eager to receive such information as pharmacists could give them. As a group they seem to have gotten away from their aloofness. Socialization of medicine seems to be slowly going forward and some physicians are beginning to feel it and fear its growth. They are willing more than formerly to recognize pharmacy and dentistry, too, as important medical divisions and are glad to have their help and coöperation in common matters. This is therefore a good time to start everywhere or continue the kind of work the Twin City pharmacists and physicians have already entered upon so successfully.

In the work already done great care was exercised not to minimize the value of medicinal products which the pharmacists cannot make, of which there are many. Secret preparations and substitutes or modifications of U. S. P. and N. F. preparations were not spared, nor were the dispensing physicians. One of the unfortunate facts that became apparent in this campaign is the unpleasant one that some pharmacists or shall we say "so-called" pharmacists could not or would not dispense some of the formulated prescriptions calling for official preparations. In a certain

part of the city these prescriptions gravitated to a well-known pharmacist whose business greatly increased and who is now a real favorite with the prescribers.

Similar work is being done in other parts of the country. The work of the Twin Cities is well known in Cleveland and Milwaukee, where work of this kind is being done. These three centers have helped each other by exchanging their literature and in other ways.

How can pharmacists everywhere be induced to undertake identical or similar work? This Section on Practical Pharmacy and Dispensing could very consistently advocate similar endeavors and activities in every part of our country. Section action to do some publicity work in this respect would well come within the scope of the Section.

ENTERIC COATING OF CAPSULES.*

BY WILLIAM J. HUSA[1] AND LOUIS MAGID.[2]

INTRODUCTION.

A problem which arises from time to time at the prescription counter is the enteric coating of capsules. A common example is a prescription calling for ipecac in capsules coated with salol. As sometimes dispensed, these capsules appear crude and unsightly, due to poor technique in coating. Furthermore, in some cases the coating applied does not protect the capsule from the digestive processes of the stomach, with the result that the drug acts as an emetic, to the discomfiture of patient, physician and pharmacist.

A comprehensive investigation of enteric coatings was recently conducted by Wruble (1), with the object of developing a new coating suitable for large scale production. The primary purpose of the present investigation was to develop a method of coating capsules that would be practical for the retail pharmacist.

EXPERIMENTAL DATA.

Spraying with Melted Salol.—According to Wruble (1), the spraying of solutions of salol in volatile solvents such as ether gave unsatisfactory results. However, Bowers (2) recently reported that capsules could be coated with salol very conveniently and efficiently by melting the salol and spraying it on with a straight-stem atomizer while agitating the capsules in a glass mortar. He stated that with a little practice, a pharmacist, with the aid of the delivery boy to shake the glass mortar, could coat 100 or more capsules in less than two minutes and that the salol coating sticks to the capsules like glue.

In the tests made in the present study, No. 1 gelatin capsules containing 15 grains of sodium bicarbonate were used. A test was made of Bowers' method, using a DeVilbiss No. 16 atomizer. The method proved rapid and convenient, and a smooth coating was obtained. However, the coating was brittle and crystalline and adhered poorly. An attempt was made to secure a coating of salol in an

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* Presented before the Section on Practical Pharmacy and Dispensing, A. PH. A., Toronto, Canada, 1932.

[1] Head Professor of Pharmacy, University of Florida.

[2] Fairchild Scholar, 1931.

amorphous, supercooled form by cooling the capsules to 0° C. before spraying. The coating was better at first, but on standing it showed the usual brittleness of salol. By varying the temperature of the melted salol, it was found best to have the salol near the melting point (about 42° C.), but the coating was still brittle.

Tests of Hilton's Method.—S. L. Hilton (3) has recommended that the capsules be coated in a dish with a solution of white shellac in Spirit of Ammonia, U. S. P. VIII, allowed to dry, and coated in the usual manner with salol. A trial was made of this method, with the modification that the salol was sprayed on. A smooth coat was obtained, which, however, still had its usual brittleness. An obvious advantage in the Hilton method lies in the fact that since shellac itself gives an enteric coating, the capsule should still be enteric even if the salol coating comes off. A test was made in which the shellac coating was followed by a coating of salol which had been digested with shellac on the water-bath. This procedure improved the physical properties of the coating but the coating was not sufficiently soluble in artificial intestinal fluid.

Shellac Coatings.—Difficulty was experienced in dissolving white shellac in alcohol, whereas orange shellac dissolved readily. Capsules coated with a 10% alcoholic solution of orange shellac were satisfactory in regard to solubility but the appearance was poor.

Tests to Overcome Brittleness of Salol.—Salol was melted and digested on a water-bath with gelatin. The melted mixture, after filtration through cotton, was sprayed on capsules, giving a smooth coat which was less brittle than salol alone. However, when tested in the artificial digestive fluids, it was found that gelatin hastened disintegration and hence such a coat is useless. The artificial gastric and intestinal fluids used throughout the investigation were made as recommended by Toplis (4).

Some other tests were made which proved unsatisfactory for the reasons indicated as follows. Rosin dissolved in ether with salol gave a smooth coat which retained its brittleness. Salol melted with camphor or thymol gave a breakable coat of poor adherence. A coat formed by spraying melted salol containing 10% of spermaceti was breakable but the solubility results were good as the coating disintegrated in 1 hour in intestinal-fluid while 5 hours were required in gastric fluid. Melted salol mixed with glycerin gave a brittle coat.

Stearic Acid Coatings.—Toplis (4) suggested the use of stearic acid as an enteric coating. Likewise Freeman (5) recommended a process of immersion of capsules in melted stearic acid. In our tests, the spraying of melted stearic acid produced a rather smooth coat, which lacked a neat appearance and also had the objectionable property of disintegrating in gastric fluid in less than an hour.

Development of a Salol-Stearic Acid-Shellac Coating.—Capsules coated with various proportions of melted salol and stearic acid were too soluble in gastric fluid. Capsules coated with mixtures of melted salol and alcoholic solutions of shellac (10%) withstood the action of gastric fluid for 6 hours and intestinal fluid for 1 hour.

When a small amount of stearic acid was added to a mixture of melted salol and an alcoholic solution of shellac, and the mixture sprayed on capsules, a good coat was obtained having ideal solubility, as it resisted gastric fluid for six hours

but disintegrated in intestinal fluid in half an hour. The formula and directions for this coating are as follows:

Salol	22.5 Gm.
Stearic acid	2.5 Gm.
10% Alcoholic solution of orange shellac	10.0 cc.

Melt the salol and stearic acid on a water-bath and add (all at once) the alcoholic solution of shellac. Let stand for a while before stirring (lest the shellac be precipitated) and then mix well by shaking. Spray the mixture with a fine spraying atomizer on capsules contained in a glass mortar.

The coating was also used on test capsules made similarly to the test tablets described by Wruble (1). These capsules contained methylene blue and calcium sulphide. If such a capsule dissolves in the stomach, eructations of H_2S follow; if it dissolves in the intestines, the urine is colored blue; if neither occurs, it is evident that the capsule has not disintegrated at all. In the tests made, the urine was colored blue and there were no eructations of H_2S, thus indicating that the coating was effective.

The physical properties of this coating represent a decrease in brittleness as compared with salol alone. The capsules can withstand ordinary handling although the coat can be rather easily scraped off with the finger nail. The capsules should be dispensed in a cardboard box, using cotton to prevent excessive jarring, and the patient should be instructed not to use capsules which lose part of the coating through handling.

SUMMARY.

1. Enteric coatings of salol may be applied to capsules by spraying the melted salol from an atomizer but the coating is brittle and adheres poorly.

2. Capsules coated with stearic acid disintegrate too rapidly in artificial gastric fluid.

3. A coating applied by spraying a mixture of salol, stearic acid and an alcoholic solution of shellac can withstand ordinary handling and possesses ideal solubility, as shown by laboratory tests and by actual trial.

REFERENCES.

(1) Milton S. Wruble, *Amer. J. Pharm.*, 102 (1930), 318.

(2) T. J. Bowers, "Selling and Service," 2, No. 5 (1931), 6.

(3) S. L. Hilton, "Proc. National Conference on Pharmaceutical Research," 1929–1930, pages 19–20.

(4) Toplis, *Amer. J. Pharm.*, 87 (1915), 518.

(5) H. J. Freeman, *Pharm. J.*, 120 (1928), 412.

COLLEGE OF PHARMACY,
UNIVERSITY OF FLORIDA,
GAINESVILLE, FLA.

Red Cross Roll Call comes between Armistice Day and Thanksgiving. Christmas Seals sale for control of Tuberculosis from now until Christmas. Pharmacists have always participated heartily and will do their part in supporting this work.

THE RHO CHI SOCIETY—1922 TO 1932.*

BY GLENN L. JENKINS.

INTRODUCTION.

The first Greek-letter college organization was founded in 1776 at the College of William and Mary, Williamsburg, Virginia. This organization was an honorary one, Phi Beta Kappa, which now has over 58,000 living members in about 115 chapters despite its high standards of admission to membership. Phi Kappa Phi, its only rival in the field of general academic scholarship, was founded in 1897 at the University of Maine, and now has about 45 chapters. Sigma Xi, which is in the sciences what Phi Beta Kappa is in the general academic field, was founded at Cornell University in 1886, and now has over 50 chapters.

In addition to the honorary fraternity which recognizes high scholastic achievement in general fields, honor societies have sprung into being in specialized or professional fields. Thus, there are honor societies in agriculture, law, medicine, music, commerce, engineering, physics, chemistry, mathematics and many others pertaining to extra curricular activities such as in forensics, dramatics and student publications. Undoubtedly, our present honor societies represent a fraternity reform movement of far-reaching importance. Several decades ago, all fraternities required scholastic proficiency for admission. Then followed a period of decline in the academic significance of these groups. Wealth and athletic or social prestige became in many cases the criteria for admission. For a time, Phi Beta Kappa alone remained a true example of an honor society and it could not become professional.[1] To remedy this deficiency and supply the needs of new professional departments in our colleges and universities, present-day honor societies were formed. Their usefulness has been so great that each year has witnessed their growth in dignity and prestige.

Professional Greek-letter fraternal societies had existed in pharmacy for many years before the establishment of a pharmaceutical honor society. Thus Kappa Psi was founded as a medical and pharmaceutical fraternity at the Medical College of Virginia in 1879; Phi Delta Chi, chemical and pharmaceutical fraternity, was established at the University of Michigan in 1883; Lambda Kappa Sigma Sorority was organized at the Massachusetts College of Pharmacy in 1913, and nationalized in 1918; and Kappa Epsilon Sorority was founded at the University of Minnesota, College of Pharmacy, in 1921. Numerous other local organizations, either fraternities, sororities or clubs were also in existence. A number of these professional fraternal organizations were not strictly pharmaceutical since they admitted medical and chemical students to membership and none of them served the purposes of an honor society.

ORIGIN OF THE RHO CHI SOCIETY.

Dean R. A. Lyman in his presidential address[2] in 1917, after emphasizing the need for an honor society in pharmacy, submitted the following recommendation: "I recommend that the committee on activities of students and alumni be directed

* Section on Historical Pharmacy, A. PH. A., Toronto meeting, 1932.

[1] Banta's Greek Exchange, 19 (1931), 220.

[2] "Proceedings of Am. Conf. of Pharm. Faculties" (1917), page 69.

to devise a plan for establishing an honorary scholarship fraternity in Pharmacy and report the same at the next annual meeting." This recommendation was adopted by the conference.[1] In the following year, the Committee on Student Activities and Alumni, with Dean Lyman as chairman, reported:[2] "That this Committee be instructed to proceed at once to the organization of an honorary pharmaceutical society in Conference schools. The society is to be non-secret, with the baccalaureate degree as the minimal requirement, and scholarship is to be the basis of election, membership open to both men and women and no race distinction. The constitution shall provide for honorary membership for persons who have rendered an exceptional service other than monetary to the cause of professional pharmacy. The name and details of organization to be left to the Committee." After considerable discussion,[3] this report was accepted. Since the proposed organization limited membership to candidates for the baccalaureate degree and because of war-time conditions, no progress was made during the next two years.[4]

The committee on Activities of Students and Alumni of the American Conference of Pharmaceutical Faculties in 1921, under the chairmanship of Professor Zada M. Cooper, recommended:[5] "That the Committee on Activities of Students and Alumni be authorized to organize an honorary pharmaceutical society, whose object will be to stimulate scholarship and research and to which scholarship shall be the basis of election. The constitution would provide for the election during a short period of years, of men and women who have rendered exceptional service to professional pharmacy irrespective of their degrees, these candidates to be recommended by local organizations but elected by the national body. Students registered for the Ph.C. degree would be eligible during the third year of the course until such time as twenty-five per cent of the colleges in the Conference shall be offering as their shortest course one of three years leading to the Ph.C. degree, when the B.S. degree shall become the minimum requirement. The society would be open to men and women and make no race distinction. After drafting a constitution and by-laws for the national organization, colleges interested would form local organizations along the proposed lines, the Committee in effect acting as national organization." This recommendation was adopted by the Conference after some discussion during which attention was called to the existence of a local honorary fraternity at the University of Michigan.

A local pharmaceutical organization had been established at the University of Michigan, College of Pharmacy, on May 4, 1908, by J. C. Bannow, H. M. Bonvy, F. R. Corwin, G. B. Fink, W. M. Fox, F. W. Hendershot, D. H. Meloche, J. J. Riley, N. I. Taylor, K. W. Tracey and C. A. Hauser. The local group chose the name of the "Aristolochite Society." By 1912, it had become recognized as one of the so-called campus honor societies. Membership in this group was restricted to students in the three- and four-year courses in 1915. A second chapter of the Aristolochite Society was organized at the Oregon Agricultural College in 1919. Professor Cooper conferred with the officers of the Aristolochite Society with the

[1] "Proceedings of Am. Conf. of Pharm. Faculties" (1917), page 143.
[2] *Ibid.* (1918), page 105.
[3] *Ibid.* (1918), page 107.
[4] *Ibid.* (1920), page 99.
[5] *Ibid.* (1921), page 45.

result that steps were taken at once to make the Society national. Accordingly, on June 3, 1922, the parent Aristolochite Society ceased to exist and a charter was granted by the State of Michigan to Alpha Chapter of Rho Chi. The Greek letters, Rho Chi, were selected as emblematic of the prescription sign, and the colors attached to the seal of membership were chosen because they are indicative of the royalty of blue and the truth and loyalty of white. This organization was approved by the American Conference of Pharmaceutical Faculties by the adoption of the following recommendation:[1] ". . . that the Conference express its approval of this society as *the* honorary pharmaceutical society of America, and support its extension into other Conference schools."

As a result of these efforts, Rho Chi was established as a non-secret national honorary pharmaceutical society open to men and women and to students irrespective of race or creed.

THE OBJECTIVES OF RHO CHI.

The fundamental objective of Rho Chi has always been to promote the advancement of the pharmaceutical sciences through the encouragement and recognition of intellectual scholarship. To attain this end, high standards of scholarship have been demanded for election to membership with the view that scholarly attainment indicates the capacity of the individual for outstanding achievement in pharmacy. Experience has shown that the reward of election to membership, symbolized by the key, supplies a scholarship incentive unequalled by any other reward such as prizes, medals and scholarships. All chapters do maintain prizes and other awards as a further stimulus to scholarship on the part of undergraduate students. The Society also seeks to promote scholarly fellowship in pharmacy by bringing undergraduate and graduate students and faculty members together in fraternal and helpful comradeship. Regular meetings are held in some chapters where papers are read by students and faculty which emphasize the professional aspect of pharmacy and point the way to much instructive study on the part of the students. Of all the uses attributable to honor societies in our colleges, this is undoubtedly the greatest; that they make their members more professional, more ethical and more serviceable to the world in which they live. Thus the Society seeks to encourage its members to render greater service to pharmacy. Finally, the Society as a national organization has sought to encourage and promote true pharmaceutical research. To foster this purpose, a sum of money was directed to be set aside by the Executive Council at the Miami meeting in 1931 as the beginning of a cumulative research fund.

DEVELOPMENT OF THE SOCIETY.

The constitution adopted when Rho Chi became a national organization was revised and printed in 1925. It provided for active, alumni and honorary members. Students eligible for active membership were required to have completed sixty credit hours of scholastic work, have shown proficiency in the science of pharmacy and allied sciences, and to be recommended by the dean of the college faculty. The government of the Society was vested in an executive council composed of the National Officers and one Council Member from each chapter. The growth of the

[1] "Proceedings of Am. Conf. of Pharm. Faculties" (1922), page 45.

Society soon brought about the need for further revision. At the Baltimore meeting in 1930, the new officers were instructed to appoint a committee to revise the constitution and submit the proposed revision to the convention of the Society in May 1930. A committee, consisting of Dr. Loyd Harris (chairman), Miss Ina Griffith, Prof. Zada M. Cooper, Mr. Ralph Clark and Dr. Bernard V. Christensen, was appointed by the president. The revised constitution was adopted at the annual convention held in Miami in 1931. It provided for many changes to take account of the expansion of Rho Chi and the development of longer courses of instruction in the colleges. The credit requirements for eligibility to membership were increased to seventy-five hours, the government of the Society was vested in an Executive Council of seven members and provision was made for the regular election of officers.

The question of a suitable ritual has always been a problem in Rho Chi. The problem was largely solved by Dr. F. A. Gilfillan, Mr. H. A. Masters and Mr. J. L. Porter of Beta Chapter who submitted a ritual form in 1924 that has been generally followed since that time. In May 1930, a committee, Dr. F. A. Gilfillan (chairman), Dean P. A. Dirstine and Mr. Justin Powers, was appointed by the president to draw up a revised ritual. This committee presented a long and a short ritual form which were acted on at the Miami Convention in 1931; the short form of ritual being adopted.

EXPANSION.

After the Rho Chi Society was founded as a national organization in 1922, a policy of conservative expansion was followed. Charters for the establishment of chapters have been granted to groups in schools which maintain high standards of pharmaceutical education. The growth of the Society is evidenced by the following chapter roll:

Year.	Chapter.	School.	Location.
1922	Alpha	University of Michigan	Ann Arbor, Michigan
	(Alpha of Aristolochite Society 1908 to 1922)		
1922	Beta	Oregon Agricultural College	Corvallis, Oregon
	(Beta of Aristolochite Society 1919 to 1922)		
1922	Gamma	University of Oklahoma	Norman, Oklahoma
1923	Delta	State University of Iowa	Iowa City, Iowa
1925	Epsilon	State College of Washington	Pullman, Washington
1925	Zeta	Alabama Polytechnic Institute	Auburn, Alabama
1925	Eta	University of Wisconsin	Madison, Wisconsin
1925	Theta	University of Southern California	Los Angeles, California
1928	Iota	University of Florida	Gainesville, Florida
1928	Kappa	North Dakota Agricultural College	Fargo, North Dakota
1929	Lambda	Medical College of Virginia	Richmond, Virginia
1929	Xi	University of North Carolina	Chapel Hill, North Carolina
1930	Mu	University of Minnesota	Minneapolis, Minnesota
1930	Omicron	University of Maryland	Baltimore, Maryland
1930	Nu	University of Texas	Austin, Texas
1931	Pi	North Pacific College	Portland, Oregon
1931	Rho	University of Washington	Seattle, Washington
1931	Sigma	Western Reserve University	Cleveland, Ohio
1931	Tau	South Dakota State College	Brookings, South Dakota

NATIONAL OFFICERS.

The officers who have served the Society were elected at irregular intervals until the Miami Convention of 1931. Since that time, all officers have been elected for two years.

President.

Hans W. Vahlteich—1922 to 1925.
Elmer J. Trout—1925 to 1930.
Glenn L. Jenkins—1930 to —.

Vice-President.

G. Carl Trasker—1922 to 1926(?).
Frederick Hood—1926 to March 1930.
Clifford C. Glover—March 1930 to May 1930.
Franklin J. Bacon—1930 to 1931.
Earl R. Serles—1931 to 1932.
Franklin J. Bacon—1932 to —.

Secretary.

Elmer J. Trout—1922 to 1925.
Clifford C. Glover—1925 to 1930.
Miss Zada Cooper—1930 to 1932.
Loyd E. Harris—1932 to —.

Treasurer.

Miss Helen Anderson—1922 to 1926.
Justin L. Powers—1926 to 1930.
Bernard V. Christensen—1930 to —.

RECOGNITION.

The high standards maintained for membership in Rho Chi have resulted in the general recognition of the Society in pharmacy as the equivalent of what Phi Beta Kappa is in the arts. During the academic year of 1930–1931 an effort was made to secure recognition for the Society in non-pharmaceutical circles with the result that Rho Chi is now accorded a place in the directory of Banta's Greek Exchange. A sketch of the development of the Society will be given a place in the next edition of "Baird's Manual."

CORRELATING THE ASSAYING OF DRUGS WITH MICROEXAMINATION.*

BY HARRY TAUB.

Enthusiasm on the part of the student for the subject we are teaching is highly desirable not only because the student will do better work in that subject, but because enthusiasm is contagious and very apt to spread to other courses once the student has become infected in a particular subject. How to achieve this objective in those subjects which are not popular with the average student has been a problem that we have wrestled with for many years. Very few students "take" to pharmacognosy like the proverbial fish does to water. Chemical assaying, however, is regarded much more tolerantly and even liked by some students. Three years ago, due to a change in the schedule, it became possible to combine certain work of the chemical laboratory with a related part of the work of the pharmacognosy laboratory and the result of this experiment is the basis of this paper.

The work of the pharmacognosy laboratory in the junior year of the B.S. course consists of the identification of representative powdered drugs of the U. S. P. and N. F. and the determination of their purity, in so far as a microscopical examination can determine adulteration. In the chemistry laboratory certain of these drugs are assayed according to the official directions for alkaloidal content, or total

* Section on Education and Legislation, A. PH. A., Toronto meeting.

resins, or volatile ether extract, or crude fibre or whatever it is that the drug is assayed for. Under the present plan each student spends the first five months in the pharmacognosy laboratory identifying the official powdered drugs, while in the chemistry laboratory during this same period he is preparing volumetric solutions and becoming acquainted with assaying technique. He then receives in the chemistry laboratory certain powdered drugs for chemical assaying and at the same time he receives a one-gram sample of the identical drugs in the pharmacognosy laboratory. During the last three months of the course the student is "on his own;" no regular assignments are given in the pharmacognosy laboratory. Instead, the crude and powdered drug museum is thrown open to these students, and all the departmental library volumes pertaining to the subject are placed in the laboratory, as well as mounted reference slides of some 500 drugs, official and non-official, together with specimens of the common drug adulterants and adulterated drugs collected in the open market in the past. An instructor is in the laboratory during the entire period, but his instruction is limited to guidance. The professor is available in his office for consultation and explanation of the annotated reports returned to each student.

As the student completes each assay in the chemistry laboratory he tries to correlate the results with what the microscopical and microchemical examination has disclosed. Here is where the merger of the work of the two laboratories (although each is still a separate course) bears fruit. Let us examine some actual cases of what happens when the student begins to compare findings. One student found that his sample of powdered cloves appeared to meet official requirements microscopically, but yielded a very low volatile ether-soluble extract. He spent the better part of two laboratory periods in attempting to find a microscopically invisible adulterant for cloves and after much reading and examining of every specimen of cloves we have in the museum came to the correct conclusion that we had given him an exhausted sample. The incidental information this student acquired while searching for invisible adulterants created an interest and enthusiasm for the subject that he could not have gotten by the regular prescribed pursuit of the course as formerly given.

Another student faced this problem: his results in the chemical laboratory showed the drug (cinchona bark) to meet U. S. P. requirements; microscopical examination revealed the presence of a large amount of potato starch. Quantitative estimation indicated that about 20% of this starch was present. He therefore concluded that he had made a mistake in the assay and repeated it, obtaining the same result as before. Something was peculiar; he certainly could rely on the evidence of his eyes, and the chemical assays gave check results. The real value of the combined work is brought out whenever the student comes to such an impasse. For the next two weeks this student consulted almost everything he could find and examined dozens of cinchona barks (our museum contains over one hundred different samples and species of cinchona) and then it dawned on him that there might be a cinchona bark that yielded more than 5% alkaloids and that this was the explanation of why an adulterated bark still conformed to the chemical requirements of the U. S. P. The information this man gained about cinchona could not have been acquired by the orthodox method of study.

The best part of the plan is that we now have the students working far be-

yond the routine requirements whenever the findings in one laboratory do not coincide with those of the other laboratory. By judicious use of certain forms of sophistication this desirable situation can be brought about nearly every time. As a matter of fact, students find a straight standard sample the most difficult of all; should the findings coincide on the first examination they generally suspect we are putting something over on them.

Since this additional work is entirely voluntary, no hardship is inflicted on the student of average ability, for under this plan it is possible for the mediocre student to turn in his report when partially completed with the request that he be given additional help in the solution of his difficulty. Depending upon how much help is needed, a certain number of points are deducted from the total value of the report, and the student returns to the laboratory to try and complete the work with the aid of the new information. Should he again require aid, he may repeat the procedure, at the cost of a few more points. It is possible to obtain just the passing rating by this means, but it puts it squarely up to the student to ask for this aid, and the good student will exert himself to the utmost before resorting to this course. We have found that the innate pride of the student can be counted on to accomplish the desired end. Where the bright student would under the old plan do just the required amount of work, he now has the opportunity and the incentive to exert himself to the limit of his ability.

The work of both laboratories has improved considerably, and the student now looks forward to the last three months of the course with eagerness. As one man expressed it: "I like this course because it gives me a chance to show what I can do." We feel that this plan should be tried out with other combinations and compared with the present course as to the increase in initiative and interest displayed by the student in required but not popular subjects.

PHARMACOGNOSY LABORATORY,
COLLEGE OF PHARMACY,
COLUMBIA UNIVERSITY.

HOSPITAL DISPENSING IN AUSTRALIA.

The *Australasian Journal of Pharmacy* in a recent issue says editorially: "Pharmacists should take a greater interest in hospital movements. If they hold aloof they have no personal contact with the committee of management. Too often it is because of this that plans are agreed upon which might not be even considered were a pharmacist available on the committee to explain the position."

THE SERVICE OF PHARMACY.

Chairman Herbert Skinner of the British Pharmaceutical Conference closed his splendid address with following words which are as applicable here as in Great Britain:

"If we think realistically about pharmacy we shall find it plays a practical and useful part in modern therapeutics. Above all, the status of a profession depends upon the ability of its practitioners to make good, and for that they must be trained. The only safe way to usefulness is to broaden the base of pharmaceutical training, to create a wider service; then more adequate recognition of our profession will follow as surely as day follows night. The reasonable expectation of the community from our profession is the services we can render in the restoration and maintenance of individual as well as public health."

THE REVENUE ACT OF 1932 AND THE PROPOSED MANUFACTURERS' SALES TAX.*

BY W. BRUCE PHILIP.

During the recent session of Congress, balancing the budget and raising money were the principal issues. The result of all this was the Revenue Act of 1932, a tax to raise money. During the formation of this act the nerves of the members of Congress and the people were taxed to their utmost. Since the bill was passed we have taxed the brains of the Treasury Department and the patience of the officers of the drug associations finding out just how this tax is to be interpreted and paid.

The Government must have money. No one enjoys being taxed, so each one is trying to have the amount needed extracted from the other fellow.

There are reasons to doubt that not any one estimate nor all together will bring in the dollars of revenue that was estimated, and therefore Senators and Representatives do not hesitate to say that there must be a revision of the 1932 Act. Newspapers throughout the country quote our Washington legislators as saying they favor adopting at this coming general session a manufacturers' excise or sales tax.

Title IV of the present law deals with a manufacturers' excise or sales tax, and undoubtedly all of those taxed under provisions of the other nine titles are going to relieve themselves by encouraging a sales or excise tax. All the interests taxed 10% or more under Title IV are going to ask that the percentage of their tax be reduced or taken off entirely.

This obviously will increase the amount of money that must be raised if a change is made when Congress meets this December. Looking at the whole list of millions of expected tax dollars you see that those items which are sold in the drug store make only a small per cent of the total and that those items which are taxed and are often bought in drug stores are likewise supplied in many other kinds of retail establishments as the 5 and 10 cent, beauty parlors and department stores. I call your attention to the fact that drug stores *were not singled out* and discriminated against. On the other hand only about 20% of the products in drug stores are now taxed under the *present* law.

Look carefully at the possibilities of what a general excise or manufacturers' sales tax may do. It may not increase the percentage numerically of the individual items taxed, but it will increase the kinds of items taxed. There seems to be little danger of any increase of the 10% tax on toiletries, nor the 5% tax on dental and other preparations. I fancy the specialty shops like barber shops, and beauty parlors will work hard to get a general sales tax, such as has been suggested to be $2^1/_4\%$ and this would lower for them the tax on creams and cosmetics, the few kinds of goods they sell, from the present 10% to a $2^1/_4\%$.

Any manufacturers' excise or sales tax will probably eliminate food and clothing and medicines so long as we have a large number of unemployed. Food and clothing interests are lobbying in Washington and are demanding that their items be exempted. Every item that is deleted from the list of manufactured products that may be taxed, increases the rate finally decided upon. It is up to those who

* Section on Education and Legislation, A. PH. A., Toronto meeting, 1932.

are dispensing and prescribing medicines to espouse the cause of their customers, the sick and helpless.

The amount *needed* by our Government will be the factor dictating the rate fixed and not any idealized figure. Government expenses have been decreased temporarily. The present amount fixed as Government expenses is not apt to be permanent. These expenses gradually increase with the growth of the nation. Government departments and employees are asking that cuts and reductions be canceled. Every time you ask for a favor or service from any department you are told that the service you ask for must be limited on account of department appropriations that have been cut by Congress. This curtailing of needs, in time, may wear away political opposition to the continual reduction in governmental expense and increases will come again.

In the history of taxation there have been many different kinds of taxes to raise Government funds. Taxes were put on real estate; there were revenue taxes, tariffs; manufacturers' excise or sales taxes were tried on some things which were of questionable benefits to humans, items which are considered by many to be harmful. Belonging to this type are cigars, liquor, playing cards, oleomargarine, etc. An income tax for a while was and still is one money-raising measure. Now we are trying out a sales tax on needed and desired items as a definite plan.

A general manufacturers' excise or sales tax as a definite plan for the Government to raise money is a new principle of taxation even though we have had it in times of emergency. If the principle of sales tax becomes established for the national Government as a good kind of tax, states and local bodies will adopt it. Some state legislators are already at work drafting this new type of legislation and three of the states now have sales tax laws.

'Tis said, two things are certain, taxes and death. Although a sales tax has been called the painless tax, and undoubtedly costs the governments less money and trouble to collect, it may in time become the last straw to break business and cause death.

Inasmuch as the tax, if imposed, must be paid, I propound for your consideration this question: Will not the Government have to delve deeply into private business in order to be assured that the tax is paid and before long governmental parental supervision of business will have become a fact? This parental power by the Government is one of the things business has been fighting for years.

Inasmuch as any endorsement of a manufacturers' excise or sales tax is an endorsement of the *method* of taxation by the Government, the rate of taxation must be fixed by the money *needed*, and as Government expenses always increase, whatever rate is first agreed upon will go up and not down as years follow. It will stay up until it reaches the breaking point as it has already on real estate. If $^1/_{10}$ of 1 per cent is endorsed now, when that is not sufficient to meet needs, the rate will be raised and you who have endorsed the principles of the sales tax are committed to the increase.

Associations are prone to endorse legislative remedies which they do not fully understand. Remedies for grievances fancied to be severe, and relief for present ills are often hastily adopted. Therefore, I warn you that it behooves the drug associations to thoroughly understand a manufacturers' excise or sales tax before endorsing

it as a remedy for fancied objections to Sections 603 and 615 in the present Revenue Act of 1932.

ESTIMATED REVENUE FOR FISCAL YEAR 1933, IN MILLIONS OF DOLLARS.

	Millions of Dollars.
Title I, Income tax:	
Individual	178
Corporation	41
Title II:	
Estate tax (collections begin after June 30, 1933)	
Title III:	
Gift tax	5
Title IV, Manufacturers' excise taxes:	
Lubricating oil, 4 cents per gallon	33
Brewers' wort, 15 cents per gallon	
Malt syrup, 3 cents per pound	82
Grape concentrates, 20 cents per gallon	
Imported gasoline, crude oil, etc.	
Coal, lumber and copper	6.5
Tires and tubes, 2¼ and 4 cents per pound	33
Toilet preparations, 10% except dentifrices, soaps, etc., 5%	13.5
Furs, 10%	12
Jewelry, 10% on amounts over $3, plated silverware exempt	9
Passenger automobiles, 3%; tires and tubes exempt	32
Trucks, 2%	3
Parts and accessories, 2%; tires and tubes exempt	7
Radio and phonograph equipment and accessories, 5%	9
Mechanical refrigerators, 5%	5
Sporting goods and cameras, 10%	5
Firearms and shells, 10%	2
Matches, wood, 2 cents per thousand; paper, ½ cent per thousand	4
Candy, 2%	4
Soft drinks, various rates	7
Electrical energy, 3% on sales for domestic and commercial purposes	39
Gasoline, 1 cent per gallon	150
Total, Title IV	456.0
Title V, Miscellaneous taxes:	
Pt. I. Telephone, telegraph, etc.	22.5
Pt. II. Admissions	42
Pt. III. Stamp taxes	45.5
Pt. IV. Oil transported by pipe line	8
Pt. V. Leases of safe-deposit boxes	1
Pt. VI. Checks, 2 cents each	78
Pt. VII. Boats	0.5
Total, Title V	197.5
Total additional taxes	958.5
Title VIII, Increased postage rates and other postal provisions, increase 1 cent first class	160
Total additional taxes and postal revenue	1,118.5

OUR COMMON INHERITANCE.*

BY J. H. BEAL, FORT WALTON, FLORIDA.

It is both a great pleasure and a great privilege to the pharmacists of the United States to meet jointly with those of the Dominion of Canada, under the auspices of this society which is intended to be representative of the professional pharmacy of both countries.

Less fortunate than the Canadians, we people of the States do not possess any convenient term to designate our specific nationality. We cannot very well call ourselves "United Staters," and therefore when we refer to ourselves as Americans it is only in acceptance of the designation which other nations of the world, including Canada, have bestowed upon us.

It is very necessary that our respective countries should each have its own national society to care for its national pharmaceutical problems, as your fine Canadian Pharmaceutical Association, and the very excellent National Association of Retail Druggists of the United States, but there is necessity also for a society devoted to the cultivation of the purely scientific and professional aspects of pharmacy, without regard to international boundary lines. This is the declared purpose of the AMERICAN PHARMACEUTICAL ASSOCIATION, the word American in this case being intended to have a continental rather than a merely national significance.

The social and commercial contacts of our two countries are so numerous and intimate that the course of events in one can hardly fail to have considerable influence upon the course of events in the other. Canadian decisions are cited in American courts, and Canadian legislation is quoted in American lawmaking bodies, while American laws and precedents are on occasion similarly considered by Canadian judges and legislators. Though our several political households remain separate and distinct, it is difficult to believe that any great political or economic disaster to one nation would not be seriously reflected upon the other. Consequently there are many interests other than professional upon which we should have a common understanding, and certain great principles of government which we should jointly strive to preserve.

EXPLANATION OF OUR PEACEFUL BORDER LINE.

Rarely have two nations, each great in population and geographical extent, on opposite sides of a long, unfortified and largely imaginary border line, continued for more than a century without war or serious thoughts of war.

Some good people, mistaking effect for cause, have assumed that this protracted peace has been due to the absence of forts and military encampments, and have argued that similar peace could be secured for all the world through the universal destruction of border line fortifications and coast defenses. The real reason, however, has not been an unfortified boundary line, but the simple fact that the people of Canada live North of that line, and that the people of the States live South of it. Besides our inheritance of a common language and literature, of the same religious beliefs, and of the same or closely similar political and economic ideals, we

* Canadian–American Pharmaceutical Convention, Toronto, Canada, August 25, 1932.

have had an abiding faith in each other's disposition to fair play which not even the selfish projects of scheming politicians have been able to seriously disturb.

In this new world of ours we have been able to prove that it is possible for men of different religious faiths to live together as friends, and often as very good friends, and that it is also possible for two nations to exist in close proximity, each having its own national ideals, but also having a sincere respect for the territorial rights, sovereignty and national aspirations of the other.

SIMILAR ORIGINS OF OUR COLONIAL STOCKS.

Of approximately 2,000,000 white inhabitants of the Thirteen Colonies at the time of their separation from the Mother Country, at least 1,500,000 were of straight English blood, with about 300,000 of other British stocks, mainly Scotch-Irish from Ulster, Celtic Irish, Scotch Highlanders and Lowland Scots. Only about 10% of the total colonial inhabitants were of non-British stocks, principally Swedes, Dutch, French Huguenots and Palatine Germans, and these have so completely blended with the British elements of the original population that where their settlements were, only family names and some peculiarities of speech remain. The extent of this blending process is illustrated in the ancestry of the late President Theodore Roosevelt who was of mingled Scotch-Irish, Dutch, French Huguenot and German descent.

In religious affiliations we had Quaker Pennsylvania, Catholic Maryland, Church of England Virginia, and Puritan New England. To match your French in Quebec, we later acquired a large French population with the lower Mississippi Valley and the territory of Louisiana, and also through a considerable immigration of French Canadians into our northeastern states.

In short, the original progenitors of the people of the States were predominantly of that blend of races which for want of a better title we term Anglo-Saxon, or Anglo-Celtic, with lesser proportions of North European and French elements; and these primary stocks have overwhelmingly impressed their characters upon the development of our political and social institutions.

Following the Revolution the immigrants to the United States were mainly from the British Isles, Germany—from which some of our most valued citizens have been derived—and from other North European countries, so that until the close of the last century the racial characters of our two peoples, except for a small Spanish element in the southwestern states, and their religious affiliations, remained substantially the same. Then for a period the States had a large influx of immigrants of other races, not necessarily inferior, but of alien tongues, and of widely different political and social backgrounds. Since then this influx of different racial elements has been ended; those who came with it are being assimilated much more rapidly than was at first thought possible, and the character of the Republic seems fixed in the social and cultural grooves of its first racial groups.

In referring approvingly to the racial elements which made up the bulk of the original populations of our two countries, we are not assuming their superiority to other races, but are simply affirming belief in the well-grounded theory that our social and political institutions owe their specific characters to the racial stocks with which they originated.

BUILDERS OF ANGLO-SAXON GOVERNMENTS HAVE BEEN EMPIRICISTS.

The Anglo-Saxon builders of government have, in the main, been empiricists, believing that sound political institutions can only grow out of the experience of those who live under them. The conceptions of individual liberty and of the powers and functions of government generally believed in by English-speaking nations have not been derived from *a priori* deductions of philosophers, but from the trials and errors of their ancestors.

What we term our personal liberties are not intangible abstractions obtained from theorizing about natural rights and wrongs, but definite legal entities enumerated and described in established public records. We trace our claims of individual rights exactly as we trace titles to real estate, by reference to established legal muniments—the Great Charter of Runnymede, to Acts of Parliament and the Common Law, or as in the United States to the summation of these rights as embraced in the United States Constitution.

THE IDEA OF LIMITATION UPON THE POWERS OF GOVERNMENT AND OF INALIENABLE INDIVIDUAL RIGHTS.

By virtue of our racial inheritance we have derived also certain great political ideas which have grown out of the habits of thought and political experiments of the Anglo-Saxon peoples.

Perhaps the most important of these is that there are limits to the extent of the powers which government may assert over the life, liberty or property of the subject or citizen, an idea foreshadowed in dicta of early masters of the Common Law that the judiciary might refuse to make effective an act of Parliament if it were "against common right and reason," and later more definitely set forth in certain Acts of Parliament and in the Bill of Rights of the Constitution of the United States.

Though the individual may be deprived of life, liberty and property in punishment for specified crimes, he cannot be deprived of the defensive methods and processes which require that the facts of the crime be ascertained and the penalty be declared "according to the law of the land," and in no other way.

In no other political system has this idea of fundamental individual rights been so clearly enunciated and so hedged about with protective provisions as in the basic institutions of the British and American peoples.

CONSTITUTIONAL SIGNIFICANCE OF THE AMERICAN REVOLUTION.

To get a proper perspective of the American Revolution it must always be kept in mind that it was not a war between separate nations, but a controversy between two divisions of the British people as to the extent and application of the British Constitution.

In that age colonies were considered to be "possessions" in a very possessive sense indeed, that is, as preserves for exploitation by the manufacturers and ship owners of the mother countries. Great Britain was probably no more selfish in her colonial policy than other powers; it was the common theory of the age. William Pitt expressed the prevailing European view when he declared that the colonies "should not be permitted to manufacture so much as a single nail or horse shoe."

Divested of extraneous and conflicting questions, the real issue between the Mother Country and the Colonies was concerning the extent to which the British

Constitution applied to British subjects residing overseas. The Colonists contended that they were entitled to all the constitutional rights and privileges of British subjects, while the home government maintained that they were entitled only to such rights and privileges as King and Parliament were disposed to grant them. The question was one certain to be raised sooner or later by some division of the British people. It happened to be the fate of the American colonies to put it to the test.

While there were faults and wrongs on both sides of that unfortunate and largely unnecessary conflict, we of the States still believe that the major claim of right was on the American side. At any rate, the Revolution settled for once and all that the British Constitution travels with British citizenship, and the Mother Country has since voluntarily granted to her remaining colonies far greater liberty of action than the rebellious Thirteen ever thought of demanding.

SOURCES OF UNITED STATES CONSTITUTION.

The United States Constitution is sometimes spoken of as if it were completely the invention of the eminent Statesmen who sat in that memorable convention held in Philadelphia during the summer of 1787, an impression largely strengthened by the remark of the Right Hon. William E. Gladstone, who in comparing the British and American Constitutions spoke of the latter as "the most wonderful work ever struck off at a given time, by the brain and purpose of man."

It is true that the materials of this great document were assembled at a given time, but the quarries from which they were mainly obtained were the political institutions of the Mother Country—from Colonial Charters, Acts of Parliament and the Common Law—or were principles established by the experience of the English people in emancipating themselves from autocratic rule.

The purpose of the convention of extraordinary men who formulated its provisions was not so much to invent new political principles as it was to adapt the ones they were familiar with and believed in to a form of government that must function without a hereditary monarch and a hereditary House of Lords. By force of circumstances they were compelled to devise a new framework of government, but their essential purpose was to insure and preserve the political rights and privileges which they believed they had inherited as Englishmen and Britons, and in their debates they more than once stressed the fact that they were, as far as possible, selecting principles tested by the experience of the race from which they came.

Though our two governments may differ in their external forms, and in the names by which they are called, their fundamental political philosophies are practically the same. While neither corresponds to the classic definition of a democracy, both are democratic in the sense that their peoples are governed by laws of their own choosing, and that by proceeding according to prescribed forms and without revolution, they may dismiss their lawmakers and executives, and replace them with others in whom they have greater confidence.

TOTAL RESULTS OF ANGLO-SAXON TYPE OF INSTITUTION BENEFICENT.

We do not contend that the political institutions of the English-speaking nations and the rights of private property and of private contract they support repre-

sent the culmination of human wisdom, or that they are incapable of further improvement. But many of us believe that, as exemplified in the histories of the British Commonwealth of Nations and of the United States, they have afforded a larger measure of individual liberty coupled with public order, a wider diffusion of the material benefits of civilization, more frequent opportunity for the exercise of individual initiative, and a greater spread of happiness among all classes of society than have been found under any other type of political institutions with which men have experimented.

This belief, however, is not universal. Both the efficiency and the justice of the system are being sharply challenged. It is charged that it is a system which values property above human rights; that it denies justice to the poor and confers special privileges upon the rich; that it pretends to place control in the hands of the general electorate but places actual power in the hands of certain favored groups.

We admit examples of injustice and inequality, but we contend that instead of being inherent in the system, they result from a perversion of its fundamental principles. We contend that when the system is interpreted according to its true intent and purpose, property rights are always subject to public and human rights. We contend that it aims to promote justice between all men and all classes, and that no other political system has ever provided so many safeguards for the protection of the poor and weak against the rich and powerful. When these safeguards fail it is because of the folly or selfishness of those who are chosen to administer them—failures that would be equally if not more prevalent under any other system that might be substituted for it.

Doubtless every state will always have numerous dissatisfied individuals who believe that society might be completely freed from poverty, inequality and wrong by appropriate changes in political machinery. Some favor change for the sake of change, and argue that since a multitude of new mechanical inventions have replaced older physical devices, our social and political institutions must, therefore, also be out of date and should be replaced with something new. It would be equally logical to argue that the rules for multiplication and division should be replaced because our commercial transactions are vaster and more complicated than when arithmetic was invented.

We believe that there are such things as permanent truths and permanent values; that there are truths and moral and spiritual values derived from the past which to part with would mean the end of ordered society, and that the political principles worked out in the experience of our race are still vital to the preservation of liberty.

THE FALLACY OF DIRECT ACTION.

Ordered institutions which permit reasonable freedom of individual action without anarchy, though difficult to gain are easy to lose. Ours though evolved from the experience of centuries are not fool proof.

The danger is not so much from those who openly advocate some form of communism or state socialism, as from those who mistakenly support measures and policies which, if carried to their logical conclusions, would inevitably destroy the basic principles which support our present political and economic systems.

Among the most dangerous of these innocent-appearing theories are those favoring some form of so-called "direct action," or the putting aside of constitutional restraints which prevent popularly advocated measures from being put into immediate effect. These restraints are not, as sometimes alleged, intended to defeat the reasoned will of the majority, but rather to insure proper deliberation upon public measures and to prevent the precipitate action and the overriding of the rights of minorities which have so commonly defeated attempts at orderly self-government.

The theory of Rosseau, and of romantic philosophers generally, that "the majority is always right," and that we have only to "give the people their head," unrestrained by fixed rules, and all will be right with the world, is not borne out by experience. All societies organized upon this basis have uniformly destroyed themselves through their own excesses.

Unrestricted liberty of action is dangerous in the hands of either the few or the many. As Alexander Hamilton phrased it, "Give all the power to the many and they will oppress the few; give all the power to the few and they will oppress the many." The only constitution worthy of the name is one which keeps absolute and unrestrained power out of the hands of both the few and the many.

It will be of little profit to have rescued liberty from despotic monarchs if it must be surrendered to despotic mobs. If autocratic rule is to prevail, the rule of the individual autocrat would be preferable to the rule of the unrestricted crowd. The individual may sometimes be restrained from excesses by motives of policy, by remembering the fate of former despots, or by foreseeing future retribution. The crowd neither remembers past results nor foresees future consequences; the only thing it regards as sacred is the impulse of the moment which it arrogantly denominates "the public will."

These so-called constitutional restraints constitute the most important contribution of our race to the art of government, and more than any other feature have been responsible for the continued stability of the American and British systems, while nearly every other nation in the world has changed its form of government one or more times.

Direct action, no matter by what fine name disguised, is nothing more than mob action, and is the usual means by which the organized minority seeks to impose its will upon the majority.

EXCESSIVE REGULATORY LEGISLATION.

Next to the fallacy of direct action perhaps the greatest menace to the permanence of liberal institutions is the common tendency to excessive regulation of the lives and employments of the citizens by legislative enactments.

The human mind, or at least its American variety, is so constituted that it can always imagine a more desirable state of things than the state existing. To those who believe in the efficiency of legislation as a cure for social ills, it seems logical to call upon the lawmaking body to prohibit whatever is disagreeable and to command what is desirable. But when the new conditions created by the new law are examined it will be found that they likewise possess their disadvantages, and this will equally be true of every subsequently created condition, so that the process of correction by lawmaking is interminable.

It is never possible to foresee all of the ramifications and collateral effects of new legislation, some of which may be widely different from those intended. Following the Civil War in the United States there was adopted an amendment to the Federal Constitution which was thought necessary to protect the liberties of the newly emancipated slaves. A few years ago this amendment designed to protect the liberty of negroes in the South was made the basis of a decision by the United States Supreme Court determining who might legally own a drug store in the State of Pennsylvania.

Near the beginning of the present century there came into existence the trade combinations known as "trusts," which enabled large industrial interests through coöperative agreements to undersell their small competitors and squeeze them out of business. These were the first predatory price cutters. Hastily and without sufficient study, the Federal Congress enacted a series of anti-trust laws intended to put an end to such monopolistic practices.

The great corporations very largely took themselves out of reach of the law by dissolving their trust agreements and merging themselves into still greater corporations. But these anti-trust laws, as interpreted by the courts, have continued very effectively to prevent small independent producers or distributors from combining in the slightest degree to protect themselves against the aggressions of their powerful competitors. The measures intended to prevent monopoly of one kind have become the most efficient protectors of monopoly of another kind, or as it was expressed by one of my former pharmacy students, "the law holds the little fellow while the big fellow skins him."

Another kind of legislation liable to be even more objectionable than excessive trade regulation is that which aims to bring the habits and personal behavior of all citizens into conformity with a common pattern, the pattern of course being furnished by those who propose the regulations.

We can frequently sympathize with the ultimate purposes of these sumptuary reformers, and concede their motives to be wholly laudable; we object to their methods for the reason that history shows a practically unbroken series of failures in attempted moral reforms by force of law.

The peoples of Anglo-Saxon descent have been distinguished by the two apparently contradictory traits of at times showing very great respect for law, and at other times of offering savage resistance to law. The laws to which they have commonly given ready obedience have been those prohibiting generally acknowledged social wrongs, as theft and murder; while the laws they have commonly resisted have been in abridgment of activities which, rightly or wrongly, they have believed to be matters of conscience and private judgment, as their religious faiths, habits of living, etc. When they have been unable to exercise these latter liberties under the law, they have exercised them in spite of the law.

In dealing with these as with many other questions affecting public policy the best progress is made when we rely mainly upon educative propaganda, and keep the actual letter of the law well within the limits of demonstrated public sentiment; in other words, the law will most nearly succeed when it represents a compromise between extreme views.

An unfortunate psychological effect of habitual disobedience to one kind of law is the gradual breeding of contempt for all laws, even the most needed and salu-

tary. This has been found to be true in the United States where the efforts to bring about mass production of the moral virtues through compulsory legislation have had most unhappy results. Disobedience to sumptuary laws has clogged our courts with criminal cases, crowded our penal institutions, and brought humiliation to our law-abiding citizens who, despite foreign critics, still constitute a liberal majority of our population.

EXCESSIVE REGULATION LEADS TO BUREAUCRATIC CONTROL OF THE STATE.

An unescapable consequence of excessive regulation either of business or morals is a great multiplication of the machinery of government.

Ordinary thief-taking can be left to the general police department, but in order to look closely into industrial and commercial activities and into the daily lives and personal habits of the citizens, various boards, bureaus and commissions are required, with their armies of superintendents, supervisors, inspectors, informers and prosecutors, to detect and prosecute unlawful acts.

It is characteristic of government bureaus to constantly seek to enlarge their spheres of action, to extend the scope of their authority, and to secure increased appropriations. Thus the efforts to secure absolute perfection in the conduct of human affairs may end in the creation of a bureaucratic state, in which the principal function of the legislative department is to vote appropriations for support of the various bureaus, and the chief function of the non-official citizen is to pay taxes, while the attention of courts and police is so completely occupied with the capture and prosecution of violators of sumptuary statutes that common thieves and murderers go unwhipped of justice.

DEMOCRATIC INSTITUTIONS DEPEND UPON INTELLIGENCE OF ELECTORATE.

Some political philosophers maintain that no democratic government can permanently endure, for the reason that a people long accustomed to liberty gradually forget the importance of the principles which make liberty possible, and lightly surrender them for novelties which lead first to anarchy and end in a dictatorship or some other form of autocratic control.

If we are to escape this fate it will be because we are able to develop a class of citizens the majority of whom shall have not merely a dogmatic faith in our institutions, but an understanding of the basic principles upon which they rest, and of the reasons why they are indispensable to good government.

It will be a majority having an intelligent understanding of the facts that systems of government and jurisprudence cannot be put on and off like suits of clothes, but must grow out of the historic backgrounds of the people who operate and live under them; and that while the constitutional provisions which protect individual liberties can be easily surrendered, they can be recovered only by fighting for them.

It must be a majority able to perceive that, human nature being what it is, no system of political machinery can possibly be devised that will wholly eliminate wrong and injustice. The law can forbid the wrongs and provide the machinery for their redress, but its success must depend upon the wisdom and sense of justice of those who are chosen to administer it.

And, finally, we must be able to develop a body of citizens who are able to perceive that the restraints imposed upon the powers of government and the protection placed about the liberties of the individual citizen constitute the most vital portions of our racial inheritance and should never be weakened for the sake of some fancied immediate good, or upon any other pretext whatever.

Upon us as members of a profession in daily contact with the general public rests an obligation to utilize that contact to promote a better understanding of the institutions that have brought to our two nations whatever measure of internal peace and prosperity they have enjoyed, and also to make use of our membership in this joint professional society to contribute to the permanence of the friendly relations that have continued for nearly a century and a quarter.

CANADIAN–U. S. RELATIONS.

Economists tell us how many hundreds of millions of dollars are spent in Canada each year by visitors from the States, amounting, it is said, to $30.00 for each adult and minor in the Dominion.

This is a balance of trade against us to which we do not object. We wish our citizens to see something of this great and wonderful country of yours, and we hope it will enable you to learn from actual contact that the average people of the States are very much like the average of your own—plain, everyday home-folk, good and bad, wise and foolish, but in the main a fairly decent kind of people. When politicians of different countries fall out with each other, formal written treaties may suddenly become scraps of paper, but unwritten alliances growing out of the mutual understanding and good-will of their peoples are not so easily disturbed.

In the diplomatic behavior of Canada toward the United States it would be difficult to find a flaw. In the trying situations frequently arising in connection with the attempted enforcement of our prohibition act along the border, the Canadian Government has on more than one occasion been generously forbearant. If all governments followed the fine example of Canada in their international relations, there would be small need for further Geneva Peace Conferences.

For the Government and people of Canada the people of the United States have only profound respect and good-will. On our side we are proud of our racial kinship, and sincerely trust that this third meeting of this professional society in the Dominion may still further promote the cordial relations existing between your great and progressive country and our own.

HOSPITAL PHARMACY.

The *Druggists Circular* commenting on recent unfortunate accidents due to errors in dispensing states—"Pharmacy laws are made to protect the public, including that portion of them who are so unfortunate as to have to spend some of or all their time in hospitals or other public institutions. Every now and then we read in the newspaper of a casualty caused by the evasion of the pharmacy law in one of these institutions." Reference is made to Resolution No. 24 of the Toronto A. PH. A. meeting.

NO. 24. PHARMACEUTICAL SERVICE IN HOSPITALS.

Resolved, that the AMERICAN PHARMACEUTICAL ASSOCIATION through the proper offices be instructed to continue its efforts to secure the coöperation of the Council on Medical Education and Hospitals of the American Medical Association in providing proper supervision over hospital pharmacies by the requirements covering approved hospitals.

DEPARTMENT OF BUSINESS MANAGEMENT

Conducted by Paul C. Olsen.*

COMMENTS, QUESTIONS AND SUGGESTIONS ARE INVITED AND WELCOME.

Readers are invited to submit comments, criticisms and suggestions regarding the material which appears in this department. The Editor will also undertake to answer questions regarding general problems of business management. Letters of general interest will be published, but the writer's name will not be revealed without his permission.

ADVERTISING AND SELLING PROBLEMS OF DRUG STORES.

CHARACTERISTICS OF SUCCESSFUL DRUG STORE SALESMEN.

BY PAUL C. OLSEN.

Honesty is a characteristic which in a drug store salesperson, or in any one, should require no defense or explanation. None the less, it is a regrettable fact that honesty is not so regarded everywhere.

Digressions vary all the way from "little white lies" to downright and discreditable deceit. It is not my business here to attempt to defend honesty from a moral standpoint. Indeed, it requires no such defense. I do want to try to explain, however, that regardless of these moral considerations, honesty is the best policy from a business and selling standpoint.

One of the most common disregards to-day of the principle of honesty and fair dealing is the practice of giving inside prices to favored customers. The reason that these customers are favored is not because they deserve to be favored, but rather because they insist upon being favored and the drug store proprietor or salesman is not courageous nor fair enough to deny their requests.

A woman says, "I can get such and such for such a price." All too often, the tendency to-day in many drug stores is in the particular sale to meet the alleged competitive price but not to make a general reduction to everybody in the selling price of that item. The serious thing about this practice is not the few pennies lost profit resulting from the reduction in price on the single sale but, on the one hand, the creation of the impression in the mind of the customer who gains such a favor that all prices in the store are subject to negotiation and, therefore, not to be trusted. An equally grave danger is the very distinct possibility that the customer gaining the favor will boast of it to people who have not obtained such favors. Again, confidence in the drug store and in its personnel is severely shaken, and confidence is the basis upon which successful and profitable drug store businesses are built.

I have discussed repeatedly in THIS JOURNAL the problems created by cut prices on standard identified merchandise and have attempted to indicate practical, profitable and confidence-winning methods of meeting such competition in considerable degree. When, instead of using these methods, a druggist immediately gives inside prices to those who ask most insistently for them, he is destroying the foundation stones upon which the success of his business must be built.

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There have been substitution practices in one way or another in prescriptions; such practices are, of course, entirely indefensible and require no excoriation here.

There is, however, a tendency to defend the inside price to favored customers and to put such practices in a class with the little white lies which are told customers when they ask about the ingredients in a prescription just brought in. Little white lies are defensible on the moral ground that they will cause less suffering than the truth and that they do not create nor maintain wrong impressions.

Honesty and truthfulness as characteristics in drug store salesmen are essentially negative and, as I said above, they are taken for granted. The absence of them creates not only moral but business problems such as I have outlined above.

A lack of honesty and truthfulness places an extra burden upon a drug store salesman. The honest and truthful salesperson has no such extra burden because his statements are always in accordance with the facts. The dishonest and untruthful person must have not only a clear knowledge of the facts but of the statements contrary to fact which he has made. It is this dual burden which eventually ruins the salesperson who is dishonest and untruthful.

A characteristic in drug store salespeople closely related to honesty and truthfulness is that of loyalty. It, too, is largely negative in its force. Loyalty is presumed to exist, unless circumstances and actions prove otherwise. I am quite willing to admit that loyalty does not bring always appropriate rewards. Undeserving persons are promoted, while loyal salespeople remain at their old duties or are even discharged. This does not, however, prove that loyalty is an undesirable characteristic in a drug store salesman. Justice does not always prevail and sometimes is slow to prevail. This does not excuse in a drug store salesman a lack of loyalty any more than an escape from punishment by a guilty murderer justifies that crime.

I have purposely left to the last this discussion of honesty, truthfulness and loyalty as characteristics of drug store salesmen, because, while they are fundamental to success, they are not in themselves characteristics which insure success. Without them a person cannot succeed for long, but he must have many other and more positive characteristics if he is to succeed in any important degree. Many persons, essentially honest, truthful and loyal, fill humble and subordinate positions; the absence of other and more positive characteristics wholly incapacitates them from doing more responsible work.

The drug store salesman who is not loyal to his employer, and feels he cannot be loyal to him because of an evident deficiency in the character of the employer, should not continue in such a position. If the fault is entirely with the employer, rather than with the salesman's analysis of the employer, he should seek employment elsewhere immediately. He cannot serve himself nor his employer in such a position. He should be sure, however, that the fault is with the employer and not merely in his own analysis of the situation.

I knew a young man once who, just prior to entering his last year in college, seriously considered leaving the employ of a drug store proprietor with whom he had worked all through his high school and college days and whose encouragement and financial help had enabled him to go to college. The dispute concerned summer wages and working hours. The young man had failed to realize that, during his last year in college on account of the increased schedule of laboratory and class

work in that year, he would be able to spend very little time in the store and thus to give the proprietor very little value for the wages he had agreed to pay him. The extra summer work was simply a partial compensation for this later loss which the proprietor would suffer. Fortunately, the young man was amenable to reason when the facts were carefully and tactfully explained to him, with the result he attacked his work during the remainder of the summer with a zest and enthusiasm which was of great profit to himself and to the store in which he worked.

Another characteristic basically negative in its force is alertness. It is taken for granted that a drug store salesman will be vigilant and ready in the performance of his duties. What we take for granted in this respect is not always achieved, moans many a drug store proprietor who has had to warn an apprentice that the sidewalk in front of the store is not the place to stand when he has no immediate duties to perform. The cold weather sequel of this—the apprentice with his nose pressed against the glass of the front door—is equally distasteful to the aggressive and thoughtful drug store proprietor. This is rightly so because employees so obviously idle bespeak a slack business. People are irresistibly attracted to the busiest stores, just as moths are drawn to the brightest lights. They avoid whenever possible the stores which do not appear to be busy, because a store which appears not to be busy makes people think that its merchandise and services are not satisfactory, otherwise it would be busy.

If a drug store salesman has the time and the inclination to read the morning paper, the place to read it is out of sight in the back room and not perched on top of a soda fountain stool. Should customers enter, the paper can be laid down secretly and the customer approached alertly and with contagious interest and enthusiasm.

Nothing is of greater importance than prompt service to the customers who enter the store. Other duties should be dropped as quickly as possible that customers may be served. A customer by entering the store has come the greater part of the way necessary to make possible a sale. Customers expect, and certainly not without reason, that having come this far, they should receive instantly the alert attention of a salesperson in order speedily to complete the transaction.

CONCENTRATED YELLOW MERCURIC OXIDE OINTMENT (10 PER CENT).

The Austrian Pharmacopœia is considering the following formula for inclusion:

Mercuric chloride	19 parts
Sodium hydroxide solution	80 parts
Distilled water	a sufficient quantity
Wool fat	30 parts
Soft paraffin, white	a sufficient quantity

Dissolve the mercuric chloride in 380 parts of hot water, filter, allow to cool to about 30° C., and pour with constant stirring, into the sodium hydroxide solution, diluted with 250 parts of water. Set the mixture aside for one hour, stir frequently and protect from light. Collect the precipitate on a tared filter; when the liquid has drained off, wash with water at 30° C., until silver nitrate produces in the washings not more than an opalescence. Dry the precipitate without the aid of heat, and then triturate the mercuric oxide with the wool fat and 50 parts of soft paraffin. The filter is dried at 100° C., and weighed to determine the quantity of mercuric oxide still adhering, which must be deducted from the 15 parts of HgO resulting from 19 parts of $HgCl_2$. Add sufficient soft paraffin to produce ten times the weight of HgO formed, and triturate thoroughly.

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

C. B. JORDAN—CHAIRMAN OF EXECUTIVE COMMITTEE, A. A. C. P., EDITOR OF THIS DEPARTMENT.

SUMMARY OF THE PROCEEDINGS OF THE 1932 MEETING OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY.

BY ZADA M. COOPER.

The thirty-third annual meeting of the American Association of Colleges of Pharmacy was held at the Royal York Hotel, Toronto, Canada, August 22nd–23rd. Ninety-two representatives from forty-four colleges in thirty-one states and in the District of Columbia were in attendance. Fifteen or more from non-member colleges in the United States attended part of the sessions and staff members from four Canadian Colleges were present.

Dean Frank H. Eby read a memorial to Dean John R. Minehart, who passed away during the year.

The address of President Townes R. Leigh is printed in the September number of the JOURNAL, A. PH. A., pages 921–933.

Secretary-Treasurer Zada M. Cooper reported that fifty-seven active members constituted the total membership of the Association. Nineteen colleges were visited at a total expense of $617.87.

The financial statement showed a balance of $1144.30 and $3000.00 in government bonds.

Secretary Cooper also reported on the graduates from member colleges totaling 1934; forty-five were granted the M.S. degree with majors as follows: 20 in pharmacy, 12 in pharmaceutical chemistry, 2 in pharmacognosy, 4 in pharmacology, 1 in biochemistry, 5 in chemistry, branch not specified, 1 in retail training, 6 were granted the Ph.D. degree, 3 with a major in pharmacy, 2 in chemistry, 1 in pharmacognosy.

Dean Jordan, chairman of the Executive Committee, submitted a summary of reports on the training of entering students. He also reported on the visitations made to schools.

He directed attention to the following resolution which has been adopted by the Association of American Medical Colleges:

> "*Resolved* that pharmacy school graduates applying for matriculation in medicine may not be granted credit (premedical) except with the approval of the Executive Council to which body the credentials of the applicant shall be submitted for evaluation. The Council will accept the evaluation of the state university or a member of the Association of American Universities."

A member of the Executive Council explained that certain pharmacy schools advertise their courses as superior preparation for the study of medicine, though they are not courses that may be counted toward a bachelor's degree in accredited universities and colleges of liberal arts and sciences which are the only ones that the Association of American Medical Colleges can accept.

Secretary Zapffe of the Association of Medical Colleges was unable to accept an invitation to attend the meeting of the American Association of Colleges of Pharmacy and discuss the question. He has extended an invitation to the Association to send a committee to meet with the Executive Committee of the Association of American Medical Colleges at the next annual meeting in Philadelphia in November 1932. The Executive Committee recommended that a committee of three be sent.

It was recommended that September 1935 be the final date for completion of any pharmacy course of less than four years. Also that only one year of practical experience be required of graduates of the four-year course.

Dean Dye referred briefly to the meeting toward higher educational standards and the part the various committees had taken in its progress. He stressed the responsibility of the schools, in perfecting the four-year curriculum. He stated that the curricula in different colleges should not be identical. There must be originality and individuality, but each must be worthy of the degree conferred.

Dean Rudd summarized the report of the Committee on Curriculum and Teaching Methods in substance, as follows; necessarily the entering class in pharmacy for the next few years will be relatively small. The Committee believed this must inevitably improve the general status of pharmacy.

The Committee recommended that the inspectors of schools take into full consideration the good faith in which the program is carried out and the Executive Committee in planning inspections have this definitely in mind. The fact that the four years' college training as a preparation for the practice of pharmacy is not yet fully appreciated lays a burden on the A. A. C. P.

It was recommended that the Executive Committee prepare a bulletin setting forth the purposes and content of the four-year course and the advantages of such training. It was recommended further that this bulletin be published in the Association section of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at as early a date as possible and reprints of it be made available to colleges at a price to cover the cost only. The report was accepted and the recommendations referred to the Committee on Resolutions.

Dean O'Connell reported concerning pharmaceutical publications by students and alumni. He stated that the relatively small number are maintaining these bulletins. The report also directed attention to the Rho Chi Society which now has nineteen chapters.

Dean R. A. Lyman in his report of the meeting of the American Council on Education stresses some points brought out in a symposium on the general theme, "Who and What Determine the Educational Policies of the Professional Schools?" Dean Edward Spease reported for the Committee on the Relation of Boards and Colleges.

In the absence of Dean Beard who was unavoidably absent on account of illness, the report of the Syllabus Committee was made by Prof. E. Fullerton Cook. He stated that the material was ready for the printer and the chairman has been authorized to award the contract.

Prof. E. F. Cook stated that all substances had been divided into two groups, those termed basic and those which are professional.

The Syllabus will not carry outlines for basic subjects, but a general statement will be made and courses in the group must be of accepted college rating. He also stated that the Syllabus Committee had no authority to enforce its plan, but it is a carefully thought of plan for a well-balanced and suitable four-year course, with a minimum number of members for each course.

Dr. B. V. Christensen reported that three student branches of the A. PH. A. were organized during the year; that of the Western Reserve University, University of Florida and the University of Wisconsin. It is said that there are now six student branches with a membership of approximately two hundred.

Student representatives from the Washington State College Branch, the Pittsburgh College Branch and the University of Florida Branch were introduced.

Dean Bliss reported progress for the Committee on the establishment of the pharmaceutical corps in the U. S. Army. Among the recommendations were that the A. A. C. P. renew its endorsement; the Committee to assist in securing the next legislation be continued; endorsement was given to an officially recognized pharmacy group as an integral part of the Medical Department of the U. S. Army; that the campaign for the pharmacy corps be continued and that member schools of the Association renew their efforts, in its behalf; that the conferences with the Surgeon General's efforts be approved and continued; that active workers be in attendance at national and state conventions of veterinary military organizations.

Dean Jordan reported for the Committee on the Council on Pharmaceutical Education and presented the proposed Constitution and By-Laws which had been prepared and approved by the Council. The report was scheduled to come before the A. PH. A., the N. A. B. P. and the A. A. C. P. The proposed constitution and by-laws are printed in the June JOURNAL for 1932, beginning on page 603. The Constitution and By-Laws were approved and the incoming president was authorized to appoint three members of the Council.

Dean Little reported for the Committee on Membership Standards.

The proposed Article VII of the By-Laws, "Qualifications for Membership," would read as follows:

"1. An applicant for membership in this Association must be incorporated as a college or school of pharmacy, or be a department of a state university or other regularly incorporated educational institution.

"2. No college of pharmacy conducted for financial gain shall be eligible for membership in this association.

"3. In order to qualify for membership, a college must have been in continuous operation for at least five years prior to the date of application. All courses of undergraduate work must be in full operation at the time of application for membership.

"4. An application for membership must be accompanied by the approval of the State Pharmaceutical Association of the state in which the college is located.

"5. The institution shall include in its course of instruction oral lectures, recitations and personal laboratory work.

"Member colleges may give credit for work done in absentia for academic, non-technical subjects only, provided such work has been taken in an extension division of a recognized university whose extension credits are accepted by state departments of education.

"6. Beginning with the college year 1932–1933, the graduation requirements of all member colleges for matriculating students shall be the satisfactory completion of not less than 3200 hours of instruction, of which at least 1300 hours, 40.6%, shall consist of lectures and recitations, and at least 1300 hours shall consist of laboratory work, such instruction to be given within a period of not less than four full college years of at least thirty-two weeks each. At least two months must elapse between the first and second years, the second and third years and between the third and fourth years.

"A college may, with the approval of the executive committee, be permitted to shorten this time provided additional work is done in a regularly organized summer session in an approved institution and provided further that all the required hours have been completed.

"7. The minimum requirements of member colleges for admission of students as candidates for a degree shall be:

"Evidence of good moral character, supported by not less than three letters of recommendation from reliable American citizens who are not related to the applicant.

"Evidence of satisfactory completion of four years of high school work, or its equivalent, which is of such a nature as to adequately prepare him for the work which he is undertaking.

"Students who are candidates for a degree shall be admitted to courses leading to such degrees only during the first thirty days of each session, and all necessary certification of entrance requirements must be completed within sixty days of the opening of the school term.

"A student desiring to transfer from one college to another shall be required to present a transcript of his record and a certificate of honorable dismissal from the college he is leaving. If the above conditions are compiled with, the admittance of the student is optional on the part of the second college, providing all entrance requirements can be met.

"Member colleges shall prepare each year, before April 1st, a statement of the students enrolled who have not been previously reported upon. There shall be included in this report a brief statement of the entrance credentials of each student reported. Such reports shall be certified to by the proper officers of the college, seal attached, and shall be forwarded to the Chairman of the Executive Committee. The Executive Committee Chairman shall carefully examine these lists and report to the Association at the next annual meeting any irregularity or evidence that the spirit or letter of the Association standards have been violated. The failure of any member college to comply with this requirement shall be published in the Proceedings, and if the offending member, after due notification, fails to meet this requirement for two consecutive years, it shall be subject to expulsion from the Association. Said member college may, upon the recommendation of the President and the Chairman of the Executive Committee, be reinstated by a two-thirds vote of the entire Association.

"8. Degrees to be awarded:

"The degree of Bachelor of Science (B.S.) or Bachelor of Science in Pharmacy (B.S. in Phar.) may be given for the completion of the four-year course of not less than 3200 hours. It is understood that these degrees are awarded for work of collegiate standard such as is done in our better Arts and Science Colleges.

"The degrees of Master of Science (M.S.) or Master of Science in Pharmacy (M.S. in Phar.) may be given upon the completion of not less than one full year of graduate work. Graduate work shall be interpreted as meaning work done after the completion of the requirements for the baccalaureate degree.

"The degree of Doctor of Pharmacy (Phar.D.) may be given upon the completion of not less than three years of graduate work.

"It is hoped that only such member colleges as are in a position to award either the Doctor of Science or Doctor of Philosophy degrees will offer more than one full year of graduate work, provided such work is to be credited toward a doctor's degree in the institution where such graduate work is pursued.

"9. No change in qualification for admission to or membership in the Association shall be made unless the same has been presented in writing to the Association at a regular meeting and to the members of the Association by mail at least one year prior to its adoption, and unless it shall have been adopted by a two-thirds vote of all member colleges represented at the regular meeting at which the vote was taken."

The report was received and the committee continued with the understanding that these definite changes are to be proposed next year.

Dean Bradley in his report gave some helpful suggestions growing out of personal experiences and laid down some general principles which colleges should follow in *interesting philanthropists in pharmaceutical education and research.*

REPORT OF THE HISTORIAN.

The introductory portion of Dr. Kremers' report was read by Dr. Nellie Wakeman. Dr. Kremers referred to the report submitted last year which covered the time between 1821 and 1869, inclusive, that being the time from the organization of the first college of pharmacy in the United States to the organization of the first conference of colleges in 1870. This year's report covers the decade from 1870 to 1880 and deals chiefly with the history of that first conference of colleges.

REPORTS OF SPECIAL REPRESENTATIVES.

Dr. Youngken reported steady progress in the efficiency of *Biological Abstracts*, and appealed to teachers of pharmacognosy to assist in the abstracting of foreign journals.

Dr. Glenn L. Jenkins reported that outstanding features of the *National Conference on Pharmaceutical Research* were:

"1. The comprehensive reports of standing committees which surveyed progress in research.

"2. The report of the committee on census of pharmaceutical research.

"3. Announcement of the establishment of a $500.00 fellowship."

Professor Schicks read the report of the progress of the *Druggists' Research Bureau.* The report enumerated the publications and special activities of the Bureau. The Directing Committee of the Bureau has agreed to reorganize and enlarge its activities in order to undertake the work of distributing and putting into use among retail druggists the facts revealed by the National Drug Store Survey, whenever adequate funds are supplied. The report included the plan of reorganization.

Dean Rudd stated that minutes of the *National Drug Trade Conference* had been published in full and so widely distributed that further report was unnecessary.

Dean Stout who represented the Association at the Detroit meeting of the *National Association of Retail Druggists* reported some of the outstanding features of that convention.

Dean Day, representative to the *Committee on Centennial Celebration* reported that the Century of Progress exposition is making progress and that suitable space for pharmaceutical exhibits has been provided in the Hall of Science. These exhibits will be in two groups: commercial and scientific. It is planned to have an exhibit illustrating the progress of pharmacy and a number of individual exhibits of important drugs which will show the history, method of collection, pharmaceutical preparations, active principles and action.

Dean Caspari, representing the National Drug Store Survey, which was completed last spring, reported that the Department of Commerce is preparing the material for publication. It is contemplated that the work will be continued with that of the Druggists' Research Bureau. He recommended that the Association of Colleges continue to be represented on the national committee. The report was accepted and the recommendation adopted.

REPORT OF THE COMMITTEE ON RESOLUTIONS.

The Committee on Resolutions submitted their report on the President's Address, Executive Committee Curriculum and Teaching Methods Conference Materia Medica and Establishment of a Pharmaceutical Corps in U. S. Army.

The president's recommendations, pages 926–933, I, II, III, IV and V were approved:

Recommendations of the Executive Committee approved:

(1) That the Association of Colleges of Pharmacy shall accept the invitation to send a committee of three to the next annual meeting of the Association of American Medical Colleges to discuss recognition of work done in schools of Pharmacy for pre-medic credit.

(2) That it is the sense of the American Association of Colleges of Pharmacy that for the present only one year of practical experience be required of graduates of our four-year course for admittance to the licensing examination, and it is furthermore recommended that this experience be approved.

(3) That September 1, 1936, shall be the last date on which any member college may confer a degree from any course of less than four years' duration.

Recommendations of the Committee on Curriculum and Teaching Methods approved:

(1) That the inspectors take into full consideration the good faith in which this program is carried out and the Executive Committee in planning such inspections have this end definitely in mind.

(2) That the Executive Committee prepare a bulletin setting forth in as strong terms as possible the purposes and content of the four-year course and the advantages which such training offers; same to be published in the Department of the A. A. C. P. of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. Furthermore, that these bulletins be made available to the member colleges, at a price to cover cost only.

That the title of the Conference of Teachers of Materia Medica, A. A. C. P., to be changed to: "Conference of Teachers in Pharmacognosy and Pharmacology."

(1) That the American Association of Colleges of Pharmacy renew its endorsement of measures toward the proper recognition of pharmacy in the United States Army and toward improvements in the Pharmaceutical Branch of our National Defense forces.

(2) That a committee to assist in securing the necessary legislation be continued.

(3) That this organization go on record as endorsing an officially recognized pharmacy group as an integral part of the Medical Department of the United States Army.

(4) That the work of organizing county committees on the pharmacy corps among the pharmacists of the country be redoubled and the personal campaigns in congressional districts be continued and expanded.

(5) That the member schools of this Association renew their efforts in behalf of the pharmacy corps.

(6) That the personal conferences between the Committee on the Pharmacy Corps and the Surgeon General's Office be herewith approved and their continuation encouraged.

(7) That measures be continued which will insure the presence of active workers in behalf of the pharmacy corps at the national and state conventions of all veteran, military organizations and their auxiliaries and at Washington, D. C., during Congressional sessions, at which the pharmacy corps may be taken up.

The foregoing are largely excerpts from the report of Secretary Cooper. The recommendations were read and adopted seriatim and the report as a whole was adopted. The Committee on Resolutions was composed of A. G. DuMez, W. F. Rudd, H. W. Youngken, H. A. Langenhan, R. A. Lyman, *Chairman*.

A paper, "Should a Pharmacist Speak English?" was presented by Miss Alice E. Garvin, lecturer in English at the Connecticut College of Pharmacy. The paper advocated the placing of English courses in the senior year instead of the freshman.

Article 3 of the By-Laws was amended to read:

"The Committee on Resolution shall consist of five members to be appointed by the President at the first general session of the Association. All resolutions presented to the Association, except those presented by the Executive Committee, shall be referred to this Committee for study and report, unless the Association specifically directs otherwise."

Announcement was made relative to the research grants of the AMERICAN PHARMACEUTICAL ASSOCIATION.

A paper, "The Method of Registering Pharmacists in the United States was presented by Secretary Christensen of the N. A. B. P., and a paper, "The Method of Registering Pharmacists in the Canadian Provinces," written by Mr. A. J. Wilkinson, chairman of the Council of the Canadian Pharmaceutical Association, was read by Mr. Westover.

Mr. Linstead, secretary of the Pharmaceutical Society of Great Britain addressed the session briefly.

The following officers were elected: *President*, Prof. Charles H. Stocking, Ann Arbor, Mich.; *Vice-President*, Dean Robert C. Wilson, Athens, Ga.; *Secretary-Treasurer*, Prof. Zada M. Cooper, Iowa City, Iowa; *Chairman of Executive Committee:* Dean Charles B. Jordan, La Fayette, Ind.; Dean Townes R. Leigh, Gainesville, Fla.; Dean Andrew G. DuMez, Baltimore, Md.; Dean Julius W. Sturmer, Philadelphia, Pa.; Dean Rufus A. Lyman, Lincoln, Neb.

ANNUAL DINNER.

The annual dinner was held at the Royal York Hotel. President Leigh acting as toastmaster, introduced Dean Charles F. Heebner of the Ontario College of Pharmacy, who presented the guest speaker, the Honorable W. G. Martin, Minister of Public Welfare of the Province of Ontario.

JOINT SESSION.

At the joint session with the National Association of Boards of Pharmacy, Chairman E. G. Eberle presented the report of the Fairchild Scholarship Committee. The scholarship was awarded this year to Julius Messina, of Baltimore, who was graduated from the University of Maryland School of Pharmacy in June 1932.

Prof. C. C. Glover presented a report, "The Examination for Fairchild Scholarship," based on a study of the annual reports.

The Committee made the following recommendations:

"*Qualifications of Candidates.*—1. The Examination shall be open only to Seniors or Graduate students in Schools or Colleges, members of the A. A. C. P., for the purpose of graduate study in the field of Pharmacy, the award to be paid only after he is established in the School of his choice. Note: At the end of the fourth-year curriculum.

"2. Each candidate shall have an official transcript of his record submitted to the Examination Committee (hereafter provided).

Note: This College record to be used by the Committee if necessary in determining the award; all subjects listed (whether arts or science), shall have equal consideration.

"3. Written examination.

Scope. The written examination may consist of three main divisions:

Pharmacy: Economics, Manufacturing, Dispensing
Chemistry: Inorganic, Organic, Analytical
Materia Medica: Pharmacognosy and Botany, Pharmacology and Therapeutics, Bacteriology and Allied Subjects.

Note: Since it may be assumed that only the best students of each college will be in competition, any difference in the marking systems of schools is of little importance and the decision as to the award should be placed squarely upon the results of the written examination.

The number of questions in each division is intentionally left to the discretion of the Examination Committee.

It is further expected that mathematical problems will be included in any or all of the divisions indicated.

Administration.—The Commission shall remain as originally constituted by the donor.

Conduct of Examinations.—The permanent chairman shall select member colleges not submitting a candidate, to prepare questions and the same faculties shall grade the papers. The date set for the examination shall be the same for all candidates, and shall be set by the Commission Chairman, the time period not to exceed two days.

The report was accepted and the recommendations adopted.

Dr. L. L. Walton, chairman of the Committee on the Study of Pharmacy, reported that efforts to obtain funds necessary to match the appropriations made by the National Association of Boards of Pharmacy, The American Association of Colleges of Pharmacy and THE AMERICAN PHARMACEUTICAL ASSOCIATION, to finance the study under the auspices of the American Council on Education, has been unsuccessful. Economic conditions forbid further effort now.

The Committee, however, had not been inactive. The constituent Associations had requested the Committee to study a plan proposed by the Committee on the American Council on Pharmaceutical Education, a plan for "an organization that could be useful in setting up standards for schools of pharmacy and to approve such schools as meet and maintain those standards." A Sub-Committee appointed for that purpose had now submitted a report which had previously been approved by the executive bodies of the constituent associations. The report which embodied the proposed Constitution and By-Laws of the American Council on Pharmaceutical Education (see report of that Committee) had been approved by the Committee on Study of Pharmacy itself and the Committee in turn submitted it to the joint session which voted its approval.

Dean Spease presented a paper entitled "District Meetings," in which he made a number of suggestions which were an outgrowth of his study of the reports which had come to him. These suggestions had to do with general policies and programs. A paper on "The Method of Registering Pharmacists in the United States" was presented by Secretary Christensen of the Boards. A paper on "The Method of Registering Pharmacists in the Canadian Provinces," prepared by Mr. Wilkinson, chairman of the Council of the Canadian Pharmaceutical Association, was read by Mr. Westover.

There was general discussion of the One-Year Experience Requirement. Mr. Linstead, secretary of the Pharmaceutical Society of Great Britain, addressed the session briefly.

Conference of Teachers of Pharmacy.—Dean Elmer L. Hammond, chairman of the Conference, presided and the following papers were presented and discussed: "The Deadwood in Laboratory Teaching," Roland T. Lakey; "Some Facts as Brought Out by a Study of the Actual Prices Charged for Prescriptions from Various Parts of the Country," Leon Monell; "A Method for Teaching Prescription Pricing to College Students," A. O. Mickelsen; "The Scope of a Course in Organic Pharmacy," Antoine E. Greene; "Contemporary Pharmacy and the Student," Robert W. Rodman; "The Teaching of Dispensing Pharmacy," Jessie I. McKnight; "Prescription Pricing" was discussed by Mr. L. G. Freeman.

Officers elected for the ensuing year were Dr. Louis W. Rising, *Chairman;* Dr. Henry M. Burlage, *Vice-Chairman;* and Dean Frederick V. Lofgren, *Secretary.*

Conference of Teachers of Chemistry.—Dr. John C. Bauer, chairman of the Conference presided. A paper, "Chemical Preparation and Industrial Research," was presented by Dr. George D. Beal. The discussion was led by Dr. John C. Krantz and Dr. Glenn L. Jenkins.

Officers elected for the ensuing year were Dr. Perry A. Foote, *Chairman,* and Dean Hugh C. Muldoon, *Secretary.*

Conference of Teachers of Materia Medica.—Dr. Franklin J. Bacon, chairman of the Conference, presided. A motion carried at the 1931 meeting, to change the name of the Conference not having been presented to the Association for adoption was presented in the following resolution:

"*Resolved* that it is the sense of the Conference of Teachers of Materia Medica, A. A. C. P., that in order to conform to the New Pharmaceutical Syllabus and other advances in pharmaceutical education, the title of the Conference be changed to Conference of Teachers of Pharmacognosy and Pharmacology." A motion that the resolution be adopted and presented to the Association was carried.

The following papers were presented: "Scope and Methods of Laboratory Teaching of Pharmacognosy," Ralph D. Bienfang; "The Teaching of Botany," H. B. Sifton; "The Importance of Experimental Pharmacology and Its Possibilities in the Pharmaceutical Curriculum," Marvin R. Thompson.

Officers elected for the ensuing year were Dr. B. V. Christensen, *Chairman,* and Dean Charles E. Mollett, *Secretary.*

Conference of Teachers of Pharmaceutical Economics.—Dean Howard C. Newton, chairman of the Conference, presided. A paper, "What Future Is There for the Negro Pharmacist?" was presented by Dr. John J. Mullowney.

The National Drug Store Survey was the subject of a Round Table Discussion, which discussion was led by Dr. W. Bruce Philip, Professor E. Fullerton Cook and Mr. Frank A. Delgado. Mr. Delgado also read some excerpts from a paper by Dr. Surface on the Aims of Merchandising Research. It was decided to invite the Committee on the Use and Application of the St. Louis Survey to confer with the Conference of Teachers of Pharmaceutical Economics at the annual meeting in 1933, in order that there may be a furthering of the information desired by this group and also probably by the Committee itself. A motion was carried also that the papers "be referred to the Committee on the Use of the Survey and that the suggestions made during this meeting be held over for their immediate deliberation."

Officers elected for the ensuing year were Dr. W. Bruce Philip, *Chairman*, and Professor Florin J. Amhrein, *Secretary*.

Approved:

CHARLES B. JORDAN, *Chairman, Executive Committee.* ZADA M. COOPER, *Secretary.*[1]

NOT FOR GLORY AND NOT FOR GOLD.

The Pharmacy Week editorial by Herbert Mayes in the October *American Druggist*, under above caption, concludes with the following paragraph:

"More cheerful circumstances must lie in wait for this impatient nation. The hour will arrive when prosperity becomes again a by-word. The druggists then, as now, will be ready and willing at their posts, for what kindly and gratuitous functions they perform in their prescription rooms are independent of economic booms and crashes. They serve mankind. They have no other creed. They serve mankind."

AMERICAN HOSPITAL ASSOCIATION.

Hospital Topics states that "when the Detroit convention is recorded in the annals of the American Hospital Association's history, it will loom out as the dawn of a new era in the progress of hospitalization. The initiation of movements that will help hospitals tide over this critical period and gain a stronger foothold for the future, the frank exchange of opinion on the pressing problems of the moment plus the inspiration and guidance gleaned from the reports of committees and papers by expert, veteran administrators marked the convention as one of the most successful and perhaps most valuable ever held by the association.

"The registration exceeded 2100, representing about 800 hospitals of the United States, Canada and Mexico. Also contributing much to the success of the meeting was the large exhibition of hospital equipment and supplies and the educational material displayed by the several allied organizations. Many new products were shown for the first time in manufacturers' exhibits which were acclaimed the most interesting ever presented."

Milwaukee was chosen for the 1933 meeting.

LEAFLET NO. 14—PHARMACY.

The United States Department of the Interior has issued Guidance Leaflet No. 14 on Pharmacy. The leaflets relate to the profession—the education required, where professional training is offered; length of training; student budgets, and selected references. "The series is designed for the use of high school and college students, orientation classes, guidance committees, counselors, teachers and parents."

The leaflet on pharmacy (No. 14 revised) may be obtained from the Superintendent of Documents, Washington, D. C., for five cents per copy. Pharmacists will be interested in the publication and may wish to bring the *Leaflet* to the attention of schools. A paragraph is quoted:

"To-day pharmacy is recognized as a public-health profession in every civilized nation of the world, and its practice in each is regulated by law. Its development as a public-health profession in this country includes advances in pharmaceutical education and training; in the legal registration and licensing of pharmacists by the States; in legislation (1) for limiting the practice of pharmacy to those licensed, (2) for regulating the distribution of poisons, narcotics, and alcoholic liquors, and (3) for controlling the quality and purity of drugs and medicines; in the establishment of national and State agencies for the enforcement of such legislation for the protection of the public; and in the stimulation of research to develop new drugs and to improve standards."

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[1] This report has been somewhat condensed by E. G. E. to conserve pages.

ADDRESSES

THE RELATION OF THE COSTS OF MEDICINES TO THE COSTS OF MEDICAL CARE.*

BY ROBERT P. FISCHELIS.

The practice of pharmacy in its various subdivisions has recently been subjected to a series of fact-finding surveys calculated to establish the need and importance of certain of its services to the public, as well as the efficiency with which these services are rendered and the adequacy of the compensation to the personnel engaged in rendering these services.

One need only mention the various State and regional surveys of prescription practice, the studies on the range of ingredients of prescriptions, the individual commercial studies of the St. Louis Survey conducted by the Department of Commerce and the recently completed study of the manufacture and distribution of drugs and medicines in the United States under the auspices of the Committee on the Costs of Medical Care, to call to mind the extent and far-reaching character of these undertakings.

While the busy pharmacist in his shop is apt to concentrate attention upon the practical aspects of these fact-finding studies and lose patience with the consideration of anything that does not seem to point the way to immediate improvement in his financial situation, the leaders in the profession must take the long view and endeavor to discover in the mass of data accumulated, the trends in pharmaceutical practice on which to base policies for the future development of Pharmacy along sane and logical lines.

No careful student of all of these surveys can escape the conclusion that the future of the practice of pharmacy is closely interwoven with the future of the practice of medicine. Pharmacy in its strictly professional aspects is a specialized form of medical service. The practice of medicine is an art which utilizes the sciences. It is also an economic activity with definite relations to the cost of living, the distribution of wealth and the purchasing habits of people. About one and one-half million American citizens, including about 120,000 pharmacists, make their living in this broad field and for their services the American people pay annually over three and one-half billion dollars.

The average citizen, concerned with his daily tasks and the problem of making a living, rarely stops to contemplate the magnitude of the machinery which moves with relative smoothness to care for him when he is overtaken by illness. It is difficult for him to visualize the extent of the various services which are concerned with medical care because he is as unfamiliar with the background of the practice of medicine as he is with its terminology. However, he does understand what it means to pay for an operation, a consultation of specialists, a laboratory test or a prescription.

Because sickness is unpredictable and falls unevenly upon a given group of the population and because the incomes of most families are low (in the United States it is estimated that 90% of all families have total incomes of less than $2000 and 67% less than $1500 per annum) the costs of medical care to afflicted families seem high.

Until the Committee on the Costs of Medical Care began its series of studies of the economic aspects of the prevention and care of sickness, it was difficult or impossible to interpret the extent of medical services in terms of dollars. The completion of many of these studies has provided means of comparing our national expenditures for medical care with expenditures for other necessities as well as luxuries. Thus we are enabled to test the validity of complaints regarding the high costs of various services.

It has been pointed out that about 3.5 billion dollars are spent annually for medical care. Roughly, 30% of this amount goes to physicians in private practice; 12% goes to dentists in private practice; 3.5% goes to sectarian practitioners; 2% to secondary practitioners; 3% to private duty nurses and 1% to practical nurses. About 1.3% is spent for eyeglasses; nearly 20% for drugs. Hospitals absorb about 23% of the total, public health activities take 3.5%; the army and navy medical service 0.4% and industrial and university medical service 0.3%.

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* An address delivered at the First General Session of the Toronto meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, August 24, 1932.

It will be seen that the total expenditure for drugs is about two-thirds as much as the expenditure for the medical services of private practitioners and nearly double the expenditure for the services of dentists. In dollars, it is estimated at about 715 millions annually. When it is further considered that nearly 90% of this expenditure is made in the pharmacies of the United States, the drug industry and the practice of pharmacy loom as important factors in medical practice.

Three and a half billion dollars is a huge sum of money, but when this annual expenditure is compared with the 4 billion dollars spent in one year for new passenger automobiles, or one and a half billion dollars spent for tobacco products, or one and a quarter billion spent for moving pictures it does not seem quite so formidable.

The total expenditure for medical care was about 4% of the money income of the country in 1929, which is approximately $30 per capita. This means that for every man, woman and child in the United States, there is an annual expenditure of $6 for drugs and medicines, and of this $5.40 is spent in our pharmacies.

Undoubtedly, the importance of the profession of Pharmacy in this picture is minimized by the fact that over 50% of the expenditure for drugs by the public represents money spent for secret formula products or patent medicines. Only 26% of the expenditure is for prescriptions, the balance being for home remedies and medicines used in hospitals and dispensaries.

With practically no restrictions of any kind governing the sale of patent or proprietary medicines, the tendency on the part of the public as well as the manufacturers of these products is to look upon them as mere merchandise. It is natural that this tendency should extend to packaged medicines of all kinds. The merchandising of medicines has attracted the attention of "big business," and at a time in the history of the world when industry in general has gradually been led away from the primary objective of production of goods for need, with profit as an incidental reward, to production of money profits for capitalization, with production of goods as an incidental means, it has been impossible to avoid the effects of such a change upon the drug industry.

In recent years, "big business" has been absorbing and assimilating as rapidly as possible the profit-producing features of the Practice of Pharmacy. Witness, for example, the virtually complete control of all popular proprietary medicines that can lay claim to any therapeutic value by a few financial groups; the gradually increasing control of all important wholesale and retail outlets by the same or similar financial groups; the gradual control of the popular lines of drug products, cosmetics, confectionery and other side lines sold in so-called independent drug stores by the same or similar financial groups. Witness further the gradual divorce between the power of control and knowledge which Mr. Justice Holmes, in his dissenting opinion in the Pennsylvania ownership law case, properly characterized as an evil. We have seen the passing of control of many of our manufacturing pharmaceutical houses from the hands of the pharmacists who organized them, and as pharmacists could be expected to frown on unprofessional practices, to the hands of financiers motivated solely by the instinct for profits. To them medicine is merchandise; drugs are to be *sold* and the methods of sale are the high-pressure methods of big business. What does it matter whether the health of the nation is good and the public demand for drugs is below normal? We must overcome this sales resistance just as we overcome resistance to the sale of bonds, or lumber or cigarettes.

Here we have the parting of the ways between professional pharmacy as a specialized form of medical service and the drug business. The need for the services of professional pharmacists is predicated primarily upon the need of properly prepared medicines ordered by a physician to meet an individual illness. Legally at least, his services are not required to dispense non-poisonous patent or proprietary medicines. When pharmacists advocate close adherence to orthodox medical practice they may be accused of being more interested in their own welfare than in the common good. It is therefore gratifying that a disinterested group of as high standing as the Committee on the Costs of Medical Care, after careful investigation of the facts, has come to certain conclusions which strongly emphasize the importance of the practice of professional pharmacy by pharmacists.

They have made 4 recommendations based on these conclusions, which, if carried out, would go far in establishing professional pharmacy upon a firm foundation. These recommendations are as follows:

I. More adequate use should be made of the professional knowledge and skill of pharmacists by such methods as: (*a*) increasing the opportunities for prescription compounding through elimination of the prescribing of branded products by physicians; (*b*) permitting the instruction of drug store customers in the proper use of medicines which are purchased for self-medication, but not to the extent of diagnosing patients' ailments or recommending medicines based upon description of symptoms; (*c*) arranging for the distribution by the pharmacist of general health information prepared by health departments, both with regard to medicines and general matters of hygiene; (*d*) arranging for the distribution of information to the public concerning the availability of physicians and hospitals, on the basis of lists of physicians provided by local medical or hospital associations.

II. Agencies should be established to prepare and disseminate accurate information concerning the proper use of selected lists of "home remedies" appropriate for self-medication. The lists should be established by a committee of physicians and pharmacists of unquestioned reputation and standing; the distribution of the literature may be accomplished by health departments, hospitals, drug stores, or appropriate lay associations. Universal and unnecessary use of home remedies, "patent medicines," and other self-prescribed medicine should be vigorously discouraged.

III. Secret-formula drugs and medicines should be abolished through the compulsory disclosure on the label of the kind and quantity of medicinal ingredients. Individuals or enterprises which have developed new and distinct preparations should be financially protected by appropriate privileges granted by the United States Patent Office or by a disinterested agency established for the purpose.

IV. All manufacturers of drugs and medicines, regardless of class or kind, should be required to operate under annual licenses to be granted by the federal government upon the fulfilment of satisfactory conditions with regard to competency of personnel, equipment and sanitary surroundings, and standardization of finished products.

Pharmacists have been urged at various times to become politically-minded in order to conserve their rights and privileges.

It would seem that the real need of the moment is to remain professionally-minded and as rapidly as possible to become inter-professionally-minded for it is certain that professional pharmacy cannot progress independently of medicine and the other health professions.

THE NEED OF HIGHER EDUCATIONAL STANDARDS.*

ADDRESS BY A. J. WILKINSON, CHIARMAN OF THE COUNCIL OF THE C. PH. A.

On account of the qualifications required by the various provinces of Canada to enable one to enter upon the practise of Pharmacy, it must be conceded that the men who have conformed to these legal requirements and fitted themselves to become licentiates in Pharmacy are surely entitled to be classed as professional men; but I think I hear some of you say that the public still looks upon us as merely shopkeepers who are receiving handsome profit on the sale of our merchandise—shopkeepers who have wasted several years of our lives at college in order to obtain a license to stay open upon Sundays and holidays and to sell everything from soaps to souvenirs.

Some of you, no doubt, believe that the present standard of education is now in excess of the needs of the pharmacist; that he is forced to acquire educational qualifications for which in the practical world of business he has no need, and which are soon forgotten, anyway. I heard one man suggest—not seriously I think—that we disband our college and repeal the Pharmacy Act, saying that it was no good because it gave the druggist no protection.

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* Toronto A. Ph. A. meeting.

Let me inject right here—Pharmacy laws, like all other laws, are enacted for the protection of the public, and not for any selective group. Of course, we must have some protection, too, but laws are primarily for the entire people.

So with your indulgence, I am going to give you briefly my conception, at least, of the reasons for the high and yet higher standards of educational training that should be required of the men entering upon the profession of Pharmacy.

Let us for a moment examine the changes that have been effected in the status of Pharmacy during the past few decades. Let us see who or what is responsible for those changes, and then let us see if we can anticipate the future, the dawning of which may be brighter and perhaps nearer than we think.

If you will look back a generation or two ago, you will recall that there were no pharmacy acts in effect in your state or province. Our Ontario act was framed in 1871.

The chemist of that day was a man who had served years of apprenticeship with a preceptor who saw to it that he was thoroughly trained in all of the then known arts of pharmacy. He made his own pills, extracts, ointments and so forth, and he did it well. The chemist was a manufacturer as well as a dispenser. He was a man of integrity and dignity whose advice was eagerly sought. He was one of the "wise" men of his community.

We are prone to recall that era as "The Good Old Days." Well, they probably were good old days, but as far as I can recall, the chemist in my boyhood days was as happy and contented with his station in life as we are to-day—no more—no less. There was always the same feeling that they were slaves to an unappreciative public. It is certain that working conditions were much longer and less remunerative.

Toward the beginning of this century, Science, in all her branches, seemed to undergo an awakening. Rapid strides in advancement were made in all the arts; and medicine and pharmacy were not any exceptions.

While the chemist of his day knew all the details connected with the making of extracts, tinctures, etc., of definite strength in relation to the crude drug, he had not yet learned how to determine the potency or therapeutic activity of his product. Biological standardization and assay were new to him. He had neither the training nor equipment to keep pace with the progress of the Science. Then came into prominence the manufacturing pharmaceutical houses, with their extensive laboratories and their highly trained chemists.

Then came also into the field the use of serums, vaccines, glandular products, etc., and the old time chemist found himself away behind in the procession; indeed he lacked the educational training to keep up with it. No longer could he dispense such preparations as those of Ergot, Digitalis or Nux Vomica unless they were of unquestioned potency. He ceased to be a manufacturer. He became simply a vendor.

Finding himself forced to face a higher standard of living, with a reduced revenue from his dwindling business, he did what he was forced to do, much as he may have disliked it; he became a merchandizer.

One line after another was added until to-day we are accused in some quarters of being simply a commercial class. And yet through it all we have maintained our professional traditions, we have raised our educational standards, both for entry into and graduation from our colleges.

Again I fancy I hear some of you say "Yes, but what's the use?" This brings us to our real problem "Whither are we going?" The inevitable law of evolution has been operating in the realm of Pharmacy just as surely as it has in every other phase of existence. It is only a few years ago when the entry into our profession was not very difficult—the matriculation standard was not high, our College course was not advanced, the men who emerged with diplomas under their arms were not possessed with the educational equipment of the graduates of to-day. If you are in any doubt about this statement, just have a look through the notes of some of your recent graduates. You will probably decide at once to take a post-graduate course so that you will know as much as your clerk. The graduate of to-day has no reason to suffer from an inferiority complex when thrown into the society of men of other professional callings.

Gentlemen, these are the men with whom the destiny of Pharmacy rests. The future of the profession is still in a state of evolution, it is in the melting-pot—the commercial and the professional—and the ultimate product that comes out of that melting-pot is going to be deter-

mined by the material that is put into it, and that material is represented by the men who are entering upon the profession to-day.

Are these men, after receiving intensive training in the sciences of Chemistry, Biology, Pharmacognosy, etc., are they, after three or four years of university training, going to be satisfied to go back to the so-called "modern" drug store to sell chocolate bars and alarm clocks? I think not.

I believe, sir, that we are soon to reach a parting of the ways. I believe that the Professional Pharmacy *must* survive—the commercial *may*.

We see signs in the horizon now. We are preparing ourselves now for the advent of "State Health Insurance." It is past due. I can visualize the time when the whole practice of both medicine and pharmacy will be under state control, just as our public school educational system is to-day.

When that day comes, we must be able to prove that Pharmacy is an ethical institution, and that we are the logical ones to be entrusted with the business of Pharmacy. Having in mind the fact that physicians in all the provinces and states may legally dispense, is it very remote to anticipate them attempting to take over the business of dispensing?

I do not for a moment believe that the outstanding members of the medical profession would wish this—but we should be prepared to establish the fact that ours is the profession, fitted by education and training, to take over the responsibilities of these duties.

I cannot visualize (under State control) the dispensing of medicines being handed over to stores cluttered up with 10 cent store merchandise, where price appeal is their only asset. I cannot conceive (under such control) the practise of Pharmacy being entrusted to any other than ethical and educated pharmacists.

Let us pay more attention to the educational aspects of our profession. Let us raise the standard to a still higher plane, not for the sake of keeping down the number of entrants, but to make it more selective and cultural. Let us put into this melting-pot young men of unquestioned character and ambition, make it necessary for them to acquire advanced, scientific training with respect to all branches of our profession, and you may rest assured with me that out of this crucible will evolve the type of pharmacist that will faithfully and truly maintain the best traditions of the noble art of Pharmacy.

PHARMACEUTICAL RESEARCH AND THE RESEARCH CONFERENCE.*

BY H. V. ARNY, PH.D.

It is just ten years since the National Conference on Pharmaceutical Research was organized at Cleveland, Ohio, and it is therefore appropriate that the founder of the Conference should speak at this time on "Ten Years of the Research Conference."

While this is the title assigned to me on the official program, with my full approval, I take the privilege of broadening my subject by using the title printed above. While the recital of what has occurred in this organization during the past ten years is of much interest to those present at this meeting, of far greater importance is the endeavor to let a wider audience know the debt that the world owes to pharmaceutical research.

This brings me to the query: "What is pharmaceutical research?" My answer is a broad one—research in all of its phases devoted to study of healing agents. Pharmaceutical research in this sense covers the ages since man began to walk the earth, as a thinking being. Its research workers include the priests of the Egyptian temples of the Eighteenth Dynasty, investigators whose findings have come down to us in medical papyri of B.C. 1700 and B.C. 1552; Greek physicians such as Dioscorides and Galen (First and Second Centuries, A.D.), the Roman medical writers such as Celsus (First Century, A.D.), the Persians or Arabians, such as Rhazes and Avicenna (Ninth and Tenth Centuries, A.D.), medieval herbalists such as St. Hildegard (1098–1179); the Jew, Maimonides (1135–1204), that medical fire-brand, Paracelsus (1493–1541) and lastly the pharmacopœia makers headed by Valerius Cordus (1515–1544). By the time of Cordus pharmacy as we now know it had become a well-established branch of medical practice and while the pharmacists from 1140 to the Eighteenth Century were interested chiefly in preparing

* Read at the 1932 meeting of the National Conference on Pharmaceutical Research.

medicines on physicians' orders, there were, in every generation, from the establishment of the art of printing (1440), enlightened apothecaries such as Brunschwig (born 1430), Brunfels (1488–1534), Quercetanus (1521–1609), Ryff (1544–1573) and Minderer (died 1621) who transmitted their knowledge to their colleagues by means of books. Mention must be made of the alchemists, the fore-shadowers of modern chemistry, who have questionable fame as transmuters of baser metals into gold and who frequently served more useful purposes as physicians and as pharmacists. A significant passage relative to the mingling of alchemy and pharmacy is found in Burton's "Anatomy of Melancholy" (1621) where the author, outlining his ideas as to the perfect commonwealth, includes among the population of the favored community "colleges of druggers—alchemists and physicians." As to the alchemists, he specifies, "not to make gold but for matters of physick."

By the beginning of the Eighteenth Century the pharmaceutical practitioner had become a very important factor in the medical world and pharmaceutical research in its narrower sense began its career of usefulness. Pharmacy is proud to acclaim as its very own such men as Scheele (1742–1826), the Swedish apothecary who discovered chlorine and a host of organic compounds such as the fruit acids; Sertürner (1783–1841), Pelletier (1788–1842) and Caventou (1795–1877), the early investigators of alkaloids; Bourquelot (1851–1921), pioneer in glucosidal syntheses; Tschirch (1856–), the great pharmacognosist and phytochemist, a world authority on anthraquinone drugs and on resins.

American Pharmacy points with pride to such men as the pharmacopœia makers, Procter, Rice, Remington and Diehl; to those manufacturing pharmacists who dared to be scientific, Squibb and Lloyd; to the phytochemists, Power and Kremers; and to the pharmacognosists, Maisch, Kraemer and Rusby; to say nothing of the earnest group of highly trained and brilliant research workers who represent our National Conference on Pharmaceutical Research.

This brings us to the causes actuating the creation in 1922 of our Research Conference.

We have said above that scientific research in pharmacy began with the discoveries made by Scheele during the period dating from 1765. Too much stress cannot be laid upon the fact that Scheele was a pharmacist from that day in 1756 when he became the apprentice of Apothecary Bauch of Gothenberg to the day in 1786 when he died at his apothecary shop in Köping. The chemical profession claims Scheele as one of its own, since his discoveries are among the most important in chemical history, but it is to be borne in mind that Scheele lived in the days when chemistry was an infant in swaddling clothes, that chemical laboratories as such did not exist in universities until Stromeyer, in 1805, established his famous laboratory at the University of Göttingen. The great Liebig was himself a pharmaceutical apprentice and on more than one occasion gave credit to medicine and to pharmacy as the arts which had prepared the soil from which the science of chemistry had germinated and flourished.

In similar fashion, the modern science of botany began with the herbalists, those ancient physicians and pharmacists who collected medicinal plants; hence, we pharmacists may say without fear of contradiction that our ancient craft may be considered as the godmother of those two sciences, Chemistry and Botany, which have contributed so much to the healing of nations.

In the period 1900 to 1920, thoughtful pharmacists noted a decline of interest in research in the body pharmaceutic and during the same period the vast increase in research along chemical and botanical lines was self-evident. Pharmaceutical research in the narrow sense was being faithfully conducted but our sister sciences not only developed research to a marked degree but also had no hesitation in giving their research achievements wide publicity. Some of the more enthusiastic publicists actually took unto themselves credit for work performed by pharmacists. Thus apothecary Scheele, became Scheele, the chemist, *pharmacien* Bourquelot became Bourquelot, the biologist, our own John Uri Lloyd became Lloyd, the physical chemist. The most outrageous perversion that we have noted is the placard describing the beautiful painting "Medicine" in the entrance hall of the magnificent Education Building in Albany, N. Y. This painting represents an exquisite Greek landscape in the foreground of which is found the Greek physician, carrying on a distillation with the aid of his pharmaceutical disciple. This disciple, according to the descriptive placard, is "The Chemist."

Pondering over these diversions of pharmaceutical achievements into other lines; noting lack of recognition of scientific pharmacy by various branches of the Federal government; regretting the difficulty in creating pharmaceutical sub-committees in the National Research Council,

the writer of these lines in his capacity of chairman of the then newly created committee on research of the AMERICAN PHARMACEUTICAL ASSOCIATION inaugurated a quiet movement to create an organization of research workers along pharmaceutical lines. The organization meeting was held in Cleveland on August 12, 1922, at which were present delegates from five national pharmaceutical associations, from the U. S. P. Revision Committee and from the Bureau of Chemistry of the U. S. Department of Agriculture; a group of some twenty persons interested in pharmaceutical research. As an indication of the development of the Research Conference from this simple beginning we need only to glance around this meeting room and to cite from the printed page the fact that, at the 1931 meeting of the Research Conference, held at Miami, Florida, there were delegates from ten national pharmaceutical associations, from both the U. S. P. and the N. F. Revision Committees and from two bureaus of the Federal government; a group of research workers numbering somewhere around one hundred people.

And now, as to work accomplished by the Research Conference.

The three purposes of the Conference as organized in 1922 were (*a*) a review of accomplishments in the field of pharmaceutical research, (*b*) annual compilation of data relating to pharmaceutical research workers and to the work being carried out by them, (*c*) stimulation and encouragement of research relating to pharmacy.

How far these purposes have been carried out, the following accomplishments of the Research Conference may be cited.

1. Creation of 14 committees, 10 of which are directly charged with the task of reviewing the accomplishments in the field of pharmaceutical research.
2. Annual publication of a Census of Pharmaceutical Research.
3. Creation and publishing through the efforts of Secretary Krantz of a book on the research achievements of pharmacy.
4. Creation, through the efforts of Chairman Gathercoal, of an Inter-Society Color Council.
5. Creation of a Research Fund, the first grant from which will be made at this meeting.
6. Creation of sub-committees of pharmacy within the divisions of chemistry, botany and medical sciences of the National Research Council.

As to these six lines of achievement, a few personal comments may be in order.

Our committees are functioning finely. If there were no other achievement to record, the work of Chairman Gathercoal in organizing a color conference at Washington in 1930 followed by the development from that initial gathering, of the Inter-Society Color Council, would more than justify the existence of our own Research Conference. At this meeting we will hear of the permanent organization of the Inter-Society Color Council held in New York last December at which time our own Professor Gathercoal was elected chairman.

The Census of Research can be made to speak for itself by merely saying that while the first census (1925) recorded 239 persons engaged in pharmaceutical research, the seventh census (1931) revealed no less than 503 persons interested in this field of endeavor. These 503 research workers were grouped into the several classes; retail pharmacists, hospital pharmacists, wholesale druggists, pharmacists in medical school work, governmental scientists, practicing chemists, chemical research institution workers, non-pharmaceutical teachers and their students (chemists, botanists and pharmacologists), manufacturing pharmacists and finally pharmaceutical teachers and their students. The last two groups (188 and 219, respectively) represent about 80 per cent of the total number of workers listed in the Census.

The value of this Census is not easy to express in mere figures but the present writer's opinions based on his work as compiler of the seven annual instalments from 1925 to 1931, respectively, may be of interest.

1. The Census has been an important stimulant of pharmaceutical research. Schools formerly ignoring the Census are now anxious to show evidence of research under way or about to be published.
2. The Census is a permanent and continuous answer to those scientists in other lines who have questioned whether there was such a thing as pharmaceutical research.
3. The Census has promoted good feeling between pharmaceutical research workers and their brethren in other fields of science.

Comparison has been made above of pharmaceutical research in its broadest and in its

narrowest senses. In the broadest sense, pharmaceutical research would include the scientific efforts of every person interested in all types of substances used in healing disease.

Under this definition, there would be included in the Census all research workers on pharmacology, therapeutics, bacteriology (as relates to pathogenic organisms), botany of medicinal plants, pharmacognosy, medicinal organic chemicals, pharmaceutical inorganic chemicals, biology as applied to vitamins and other food accessories and physiology as applied to endocrines; a truly formidable list. It is of interest to note that distinguished organic chemists and pharmacologists have been pleased to enroll the names of themselves and of their students in our Census; no less than 50 of the 503 recorded in 1931 being included in these groups.

In the narrow sense, the term, pharmaceutical research, should be limited to those persons of pharmaceutical training or possessing pharmaceutical allegiances. In the Census of 1931, 422 of the 503 persons enrolled belong to the narrow pharmaceutical group.

As to the *book on research achievements* of pharmacy, that admirable volume "Fighting Disease with Drugs" and also as to *Research Fund*, these important undertakings will be reported upon by the appropriate committees. I will merely state that "Fighting Disease with Drugs" is a book that deserves as wide-spread circulation as the popular publications of the American Chemical Society.

As to the pharmaceutical committees within the *National Research Council*, there is an important lesson to be learned from the bare statement that of the three committees cited above, one was disintegrated through dissensions, one has been quiescent since its organization, while one (that of pharmacognosy within the division of botany) has maintained a useful existence during the past ten years.

Our experience with these three committees confirms the oft-expressed opinion that the usefulness of a committee depends upon the members thereof.

It is a matter for congratulation that the Research Conference was able to arrange this triple connection with the Research Council; it is a matter of regret that two of the links have become severed; it is a source of joy that our good friends, the pharmacognosists of this Research Conference, have been able to reflect credit upon pharmacy within the National Research Council.

And now a few words in conclusion.

As I look back over the ten years of the National Conference on Pharmaceutical Research, I am proud to have been the agent that brought our Conference into being. I am delighted to see how finely the present administration is carrying on the work inaugurated in 1922. The earnest workers of this Research Conference have caused American Pharmacy to become research-conscious. They have inspired the rank and file of pharmaceutical scientists to realize their pharmaceutical heritage; to devote more time to research; to encourage the younger men to dare to find time for research. They have made a beginning toward securing worth-while grants for pharmaceutical research from those of our calling favored with wealth; they have convinced their confrères in other sciences, that pharmaceutical research is not limited to the achievements of past centuries but is a living force of to-day making the whole world the better because of the existence of faithful and self-denying souls ready to search out the secrets of medicines; ready to apply the newer knowledge in the fight against disease.

COLLEGE OF PHARMACY, COLUMBIA UNIVERSITY, August, 1932.

THE INTERNATIONAL PHARMACEUTICAL FEDERATION.*

BY T. POTJEWIJD.

At the General Assembly of the Dutch Pharmaceutical Association, held in 1908 at Alkmaar, a proposition of the department Limburg came up for discussion which requested that the Board of the Dutch Pharmaceutical Association should confer with the professional associations of Pharmacy in Europe, with the purpose of organizing an international association of Pharmacy. The Board of Directors thought it impossible to give a favorable preliminary decision as, in the opinion of many, these preparatory activities would incur large expenses. It was the Department of Amsterdam which, through Professor P. Van der Wielen, of Amsterdam, presented an amendment that could be accepted as a practical solution of this problem.

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* A communication to the JOURNAL A. PH. A.

The Department of Amsterdam proposed, that at the 10th International Pharmaceutical Congress to be held in Brussels in 1910, the Dutch Association of Pharmacy should report on the desirability of organizing an international union. As a result of this resolution, there appeared on the list of speakers during the Congress of Brussels the following: J. J. Hofman and R. Schoepp, who introduced a report entitled: "De la Creation d'une Association Internationale des Societies Professionnelles de Pharmacie." As a consequence of this report some conclusions were accepted, f. i., one of the Belgian representatives, M. Gosset, that runs as follows: "De fonder une association internationale des délégués du corps pharmaceutique de tous les pays, qui aurait pour but de protéger la pharmacie par la voie internationale, comme profession et comme science exacte appliquee....."

An extension of this resolution may be found in the following decision in which the principle was laid down—that it is desirable to found an international pharmaceutical association. As the two reporters had already consulted the Dutch Government, it made possible the selection of The Hague as the seat for the International Federation, after which only the regulations had to be fixed to give the necessary judicial warrant to the Federation. A proposal was accepted to appoint a commission which in a few days should decide to undertake the work required for the foundation of the International Federation.

In the sitting of September 5th, Oscar van Schoor, secretary of the permanent Commission, reported that the 10th Congress had decided to found an international federation and The Hague was selected as the seat of the federation.

The preparations for the organization of the federation could now proceed, and as the first commission had outlined the formation of an international provisional commission, the Federation was in position to start its activities.

The commission provided for one official deputy of the Dutch Government and 34 members. The *President* was the Dutch Government-Deputy, M. L. Q. van Ledden Hulsebosch; *Vice-President*, R. Schoepp, and *Secretary*, Dr. J. J. Hofman—these two had reported to the assembly in Brussels.

In the summer of 1911, seven deputies met for the first time, and the articles of the association were presented. Finally, in September 1912, the constituent assembly of the Federation was held in one of the governmental buildings in the Hague; present were: the *Home Secretary*, M. Th. Heemskerck; Prof. L. Van Itallie, as deputy of the Dutch Government; the board of the Dutch Pharmaceutical Association; in addition a great many deputies of the European professional associations were present. In this assembly the text of the regulations were carefully studied and the articles of the association were presented. At the same time the board of the Federation was constituted: *President*, Prof. Dr. L. Van Itallie, Leyden; *Vice-Presidents*, Dr. Salzmann, Berlin; Dr. H. Martin, Paris; E. White, London, and V. Haazen, Brussels; *Secretary*, Dr. J. J. Hofman, The Hague; and *Assistant-Secretary*, Dr. Schamelhout,[1] Brussels; and H. J. Möller, Copenhagen.

In 1913, the 11th International Pharmaceutical Congress was held at The Hague, the organization of which the Federation could not as yet undertake; though the president and the secretary of the Federation happened to be *President* and *Secretary* of the Congress as well. After the Congress was adjourned a meeting of the board of the Federation with the deputies of the affiliated associations was convened in Ghent. At this second General Assembly only matter-of-fact affairs were discussed and a few alterations were inserted in the Articles of the Association. It was agreed to publish a *Bulletin* about the activities of the Federation as often as was deemed necessary. The possibility of founding a "Bureau International de la Presse Pharmaceutique" and of founding a "Secretariat International des Pharmacopees" was considered. The deputy of Russia, Mr. Blumenthal, discussed the desirability of bringing more uniformity in the secondary and university education.

The invitation to coöperate with the "Swiss Apotheker-Verein" to attend the organization of an International Congress of Pharmacy, to be held in the summer of 1914, had been received. In the summer of 1914, the preparations for the Congress at Lausanne were in progress, the World War broke out and, as a result, all the international ties were snapped and, for the greater part, the work of the Federation had to be interrupted. Nevertheless, in 1915, the third *Bulletin* did appear, in which several reports on pharmaceutical education were inserted based on the propositions of Dr. Blumenthal. At the same time some reports were published

[1] Deceased.

by request of the old Congress, concerning the "Secretariat International des Pharmacopees," "la Nomenclature Pharmaceutique" and a plan "pour le Reglement General des Congres International de Pharmacie."

During the years of the war the work of the Federation was continued by some of its prominent members, so that in a few years after the war the work could be energetically resumed.

In 1922, the third "Assemblee Generale" took place in Brussels, where the regulations for the pharmaceutical congresses could be fixed. The commission for the study of "La Nomenclature Pharmaceutique" was appointed and at the same time received new duties, and several problems were freely discussed. As a consequence of this assembly an extensive report appeared on "La Nomenclature Pharmaceutique," and in the fourth *Bulletin* a report was included on "La Reglementation de la Vente des Specialites." Successively, general assemblies were held regularly: In 1923, in London; in 1925, in Lausanne; in 1927, at The Hague; in 1928, in Paris; in 1930, in Stockholm. Since 1926, the *Bulletin* has regularly appeared, at first four times; later, three times a year. New problems were given to the "Commission des Specialites," while reports of the existing commissions were received, *i. e.*, on pharmaceutical education and pharmaceutical nomenclature.

For some years the Federation has had a few interested members in America, among them Prof. E. Fullerton Cook, Prof. Otto Raubenheimer, Dr. Charles H. LaWall, Prof. Julius A. Koch and others. In 1925 the AMERICAN PHARMACEUTICAL ASSOCIATION requested to be admitted as "Membre Ordinaire" to the Federation. In the general assembly of Lausanne this request was granted and ever since this ASSOCIATION has been an active and esteemed member of the Federation. It is regretted that the great distance between America and Europe renders it impossible for a deputy to regularly visit the general assemblies of the Federation. However, in 1913, the AMERICAN PHARMACEUTICAL ASSOCIATION was represented by Prof. Joseph P. Remington and Prof. Julius A. Koch; in 1925, the Prof. Arno Viehoever represented the AMERICAN PHARMACEUTICAL ASSOCIATION.

Ever since the Assembly of Lausanne, a scientific meeting is part of the general assemblies of the Federation, in which problems of scientific importance are discussed; so far these are not mentioned on the program of the Assembly. In the first scientific meeting lectures were held by Prof. Eder, Prof. Wilczek, Mr. Lang and others. In the assembly of The Hague Prof. Eder, also in the name of Prof. Schoorl, Prof. Weevers, Prof. De Graaff and Dr. Meulenhoff and Dr. Van Den Berg held lectures. This attempt of holding lectures in the general assemblies proved to be an excellent undertaking. In Paris speeches were delivered by Prof. Van Itallie and Prof. Herissey; in Stockholm by Prof. R. Eder and Dr. S. Aage Schou and Dr. E. Erikson. Scientific subjects also appeared as items on the agenda of the General Assembly; reports on the unification of the methods of ascertaining melting and boiling points and the methods of preparing galenical preparations and, finally, the requirements for the purity of medicaments, such as arsenic and heavy metals. As a consequence of the second report, a commission was appointed who will endeavor to draw up a formulary on these preparations.

Among the social problems of the Federation the following may be mentioned: "The ascertainment of a concept for the pharmaceutical legislation;" "The influence of the wholesale trade on the practice of Pharmacy;" "The requirements for clinical thermometers;" "The legal qualifications for sera and vaccines;" "The trade in poisons." The legal qualifications for the sale of specialties were discussed. A commission was appointed to inquire into the possibility of determining the value of mild medicaments; and another, to study the International Nomenclature for pharmaceutical products. Following a request to make inquiry relative to the manner in which the control on the examination of medicaments on board ships is exercised, an appointment of a commission was made who should study this special subject. In 1930, this Commission has had its propositions accepted and thereafter it was charged to prepare an international formulary for ships' medicines. This Formulary will appear about the end of this year. Since the assembly of Paris in 1928, where Dr. Rising gave a lecture on the necessity of an international control of specialties, this subject has been up for discussion and a commission was appointed to study this problem more closely. The development of laboratories under the auspices of the national associations progressed with the work of the Commission and now there are among the members of the Commission and the corresponding members many prominent colleagues who are daily occupied with the examination of specialties. In the few years of its

existence, this Commission has performed a good deal of work and it has prepared a report on the methods, applied in the examination of specialties, which has been published this year. Besides this ascertainment of methods, this Commission has an extensive task in coördinating the research work of the national laboratories and in the rational distribution of the activities of these laboratories. This distribution of work and the mutual discussions of the members of the Commission are of an importance not to be underestimated. The international coöperation cannot be too intensive, because it may pave the way to the institution of an international pharmacopœia. As far back as 1926, the Federation had this subject on its agenda and in the Assembly of Lausanne a report in the name of Prof. L. Van Itallie appeared, in which the lines, along which an international pharmacopœia can be constituted, were indicated.

For the preparation of this report a commission was appointed, consisting of: Prof. Dr. R. Eder (Zürich), Prof. Dr. H. G. Greenish (London), Dr. A. Schamelhout[1] (Brussels), Prof. Dr. H. Thoms,[1] (Berlin), Prof. Dr. Tiffeneau, (Paris), Prof. Dr. L. Van Itallie (Leyden), Dr. O. von Friedrichs (Stockholm). The report published in the *Bulletin* of the Federation in 1928 gives an extensive historical review of the deliberations on the International Pharmaceutical Congresses since 1867 in Paris, in Vienna, St. Petersburgh and in Chicago. In 1893, at the Congress of Chicago the plan was brought forward to establish an international codex for potent medicaments. In 1898, this proposition was taken over by Dr. Rommelaere who requested the Academie Royale de Medecine de Belgique to support a motion in which the Belgian Government was invited to take steps in this direction. This motion was supported by a resolution of the International Pharmaceutical Congress of Paris in 1910, concerning a proposition of a commission under the presidency of Prof. A. Tschirch. Finally, in September 1902, the conference of Brussels took place, resulting in a number of medicaments being codified as to their method of preparation, composition and quality of active elements. In 1905, the resolutions of this conference were signed, through which fact convential agreements on these potent medicaments were adopted. The last International Congress of The Hague in 1913 took over the proposition of the conference of Brussels to found a Secretariat International de Pharmacopees. Prof. A. Tschirch and Prof. L. Van Itallie reported on the methods in which a similar secretaryship ought to function. In 1922, the Federation resumed its activities and expressed its wish that a second conference should be held. This conference convened in Brussels in 1925. The report is continued and accepts the decision that an international pharmacopœia is becoming more and more desirable, and careful consideration should be given to the possibility of establishing an international pharmacopœia. In addition, this report indicates the lines along which, in the viewpoint of the members of the Commission, a pharmacopœia of this type can be created. In this report a survey appeared on the matter that ought to be treated in an international pharmacopœia. Next to 27 components of vegetable and animal nature, this pharmacopœia ought to contain 96 preparations derived from these sources and 159 chemicals and a few preparations. The Commission has done a splendid work in preparing this report. In conformity with the resolution of the General Assembly this report was handed to the Belgian Government and to the Hygienic Department of the League of Nations.

It may be mentioned that as president of the Dutch Pharmacopœia Commission and deputy of the Dutch Government to the international conferences in Brussels, Prof. L. Van Itallie has had a large share in the preparatory activities for the establishment of an international pharmacopœia. The Federation is pleased, that Prof. Van Itallie has declared himself willing to form part of the Commission for specialties. The report of this Commission having appeared this year in the *Bulletin* of the Federation gives again more certainty to the accomplishment of international agreements concerning the preparation and examination of pharmaceutical preparations. In this report the quantitative ascertainment of many important medicaments were treated and we trust that, in due time, many of the codified methods will be inserted in an international pharmacopœia.

The work of the Commission is very important and we trust that all those whose work lies within the domain of the examination of medicaments, will render it their full coöperation; through which fact the second article of the regulations of the Federation will be fulfilled. Moreover, the completion of the work will be most important in the development of the international thought, and evidence will be given thereby that an intense coöperation of the different nations is possible.

[1] Deceased.

THE EIGHTIETH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, TORONTO, CANADA, AUGUST 24–26, 1932

ABSTRACTS OF THE MINUTES OF THE GENERAL SESSIONS.

The sessions of the Eightieth Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION were held in the Royal York Hotel, Toronto, Canada. A list of members in attendance will be found on page 982 of the September number and the continuation in this issue (October) of the JOURNAL.

Some of the Committee reports referred to in the proceedings have been printed in the Council minutes on pages 963–981 of the September number; some are included in these minutes or will be printed in later issues of the JOURNAL.

FIRST GENERAL SESSION.

The First General Session of the Eightieth Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was called to order by President Walter D. Adams at 10:15 A.M., Wednesday morning, August 24th, in the Royal York Hotel. President Adams invited the past-presidents of the ASSOCIATION to seats on the platform in the order of seniority; of those present, they are: James H. Beal, E. G. Eberle, Wm. B. Day, Samuel L. Hilton, Julius A. Koch, H. V. Arny, C. W. Holton, L. L. Walton, Theodore J. Bradley, D. F. Jones, H. A. B. Dunning, H. C. Christensen and the president-elect, W. Bruce Philip; former honorary presidents, Louis Emanuel and E. V. Zoeller, also the president of the N. A. R. D.—the second vice-president of the ASSOCIATION, J. W. Dargavel.

On account of illness, First Vice-President J. G. Beard had to return home. At a later meeting regret was expressed because of his absence. There were seated on the platform the ASSOCIATION officers of the present year.

Secretary Kelly read communications from former President Frederick J. Wulling, Prof. Otto Raubenheimer and Ambrose Mueller, expressing regret because of their unavoidable absences.

E. G. Eberle read a telegram received from J. T. Lloyd, son of Senior Past-President John Uri Lloyd, advising that he was returning home with his father who had been suddenly taken ill while on his way to the convention. They had reached Buffalo when it was deemed advisable to return.

On motion duly seconded a telegram of regret was sent to Professor Lloyd.

As a matter of unfinished business, Secretary Kelly presented the amendment to the By-Laws proposed at the last meeting, at its final session and which under the By-Laws could not be acted upon at that time. It provided for an amendment to Article 1, Chapter 5 of the By-Laws relating to the House of Delegates, of Section A, which reads: A delegate from each Section of the A. PH. A., etc. The amendment added the Plant Science Seminar, the Conference of Pharmaceutical Law Enforcement Officials and the Conference of Pharmaceutical Association Secretaries, giving them representation in the House of Delegates.

The Secretary moved that the amendment to the By-Laws be approved. This was duly seconded, put to a vote and carried.

The report of the House of Delegates was called for and was read by Secretary Kelly. On motion duly seconded and carried the report was received. (These reports are included in the minutes of the House of Delegates, which see; they are not reprinted.)

President Walter D. Adams introduced Dean G. A. Burbidge, president of the Canadian Pharmaceutical Association. President Burbidge stated that before giving his address he would like to read a telegram from the immediate past-president of the Canadian Pharmaceutical Association, Mr. Leslie Henderson, reading as follows: "Greetings. Best wishes for a successful convention. Regret exceedingly not being with you. Remember me to my many friends."

President Burbidge said that this was the first opportunity he had of conveying greetings to the ASSOCIATION from the Canadian Pharmaceutical Association and it gave him great pleasure to do so now. He also thanked the ASSOCIATION for the great honor of conferring on him honorary membership in the A. PH. A. He felt assured that the Canadian Pharmaceutical Association

appreciated it as a token of good-will to its members. During the delivery of his address, which is printed in the September number of the JOURNAL, beginning on page 955, he made further explanatory remarks—relating to apprenticeships of earlier days and present-day curricula in Colleges of Pharmacy.

President Adams expressed appreciation to President Burbidge for his address. He was struck with the similarity of conditions in Canada and the United States.

President Adams announced the absence of Vice-President Beard on account of illness and of Second Vice-President J. W. Dargavel who was engaged in Committee work, therefore he requested former President H. V. Arny to take the chair while he read his presidential address.

P. V. Keating, speaking for a delegation of Texas pharmacists, said they were appreciative of the splendid work that the A. PH. A. is doing and they were also very grateful for the honor of having Walter D. Adams elected president of the ASSOCIATION. He said that their hearts are beating with those of other members and then addressed his remarks to President Adams stating that in his opinion the ASSOCIATION had selected him because he was a man of service, of service to pharmacy in the great Southwest and this meant service to the nation as well. At the conclusion of his remarks he presented President Adams with a gavel. Previously he had referred to Congressman Fritz Lanham and Speaker John Garner. In reply President Adams stated that if political fortune would decree that the Speaker would become vice-president he would loan him the gavel which had been presented to him.

Chairman H. V. Arny stated that the next order of business was the address of the President of the A. PH. A. (The address is printed, beginning on page 908 of the September JOURNAL.)

After the reading of the address, Chairman H. V. Arny said that the address would be referred, as provided, to the Committee on Resolutions of the House of Delegates.

President Adams resumed the Chair and introduced President F. Gladstone Hines, of the British Pharmaceutical Society. He stated that this was the first opportunity he had of speaking to the convention proper and, therefore, thought that it was quite fitting that he should be permitted to express his appreciation as representing the folks from Britain for the hospitality and the courtesy of the Canadian hosts and to those from the United States. He said that the British Pharmaceutical Society was a voluntary organization of men and women engaged in various divisions of pharmacy and that the work of controlling and directing the national organization falls upon an elected and voluntary Council of twenty-one members. These are supported by scientific workers from among the members and from the English universities and other educational institutions. He stated that among the Council members there was only one lady and she is the mother of Mrs. Hugh N. Linstead. President Hines stated that they had under consideration certain post-graduate diplomas; among them, for biological work. President Hines' address is printed on page 953 of the September JOURNAL. President Adams thanked President Hines for his address.

On account of the absence of Hon. T. G. Murphy, Secretary Dr. R. B. J. Stanbury, of the Canadian Pharmaceutical Association, explained that he had a letter from Mr. Murphy advising that he would be present, if parliamentary duties did not detain him in Ottawa, where very important conferences were being held. Secretary Stanbury expressed gratitude to the members from the United States and British delegation for their visit and extended greetings.

The next item on the program was announced by President Adams as an address by Dr. R. P. Fischelis on "The Relation of the Costs of Medicines to the Costs of Medical Care." (It is printed in this number of the JOURNAL.) It was referred, on motion of Dr. R. L. Swain and duly seconded, to the Committee on Resolutions. The First General Session was then adjourned.

SECOND GENERAL SESSION.

The Second General Session of the AMERICAN PHARMACEUTICAL ASSOCIATION was convened by President Walter D. Adams at 2:35 P.M., Thursday, August 25th. Reading of communications was called for. Mr. Eberle said that he had received a telegram from the veteran member of the ASSOCIATION stating that he is improved. It was recalled that Professor Lloyd and his son came as far as Buffalo when it was deemed advisable to return on account of illness. He sent the following account of other Canadian meetings:

"In 1877–1878, the President of the AMERICAN PHARMACEUTICAL ASSOCIATION was William Saunders, of London, Ontario. A most delightful man was he, celebrated in entomology as well

as in pharmacy. His face rises before me as I think backward. From his address as President, I extract a sentence, as follows:

"Your action this day in electing me to fill the highest office in your bestowment, is without a precedent in the history of the ASSOCIATION. You meet for this, your twenty-first annual gathering, for the first time beyond the boundary of the United States."

"In 1882, at the meeting of the A. PH. A., at Niagara Falls, a celebrated visitor was present, Prof. Wm. B. Carpenter, of London, Ont. He gave us a beautiful address, from which I extract a sentence that seems to me as important to us to-day, as when it was spoken, fifty years ago. It is as follows:

" 'I rejoice that this ASSOCIATION is not merely for the material well-being of the pharmacists, but for the well-being of the public and that your members fully recognize that what is best for the public is best for themselves; best for themselves I am quite sure in material interests, and best for themselves in those higher moral aspects the superior value of which we must all most fully recognize.' "

"In 1883, Michael Carteighe, President of the British Pharmaceutical Society and the Pharmaceutical Conference, attended the meeting in Chicago to bring to Professor Maisch the Hanbury Medal.

"In 1896 came our third meeting in Canada, which was held in Montreal. From the address of the President, James M. Good, I extract one sentence:

" 'Familiar faces, our friends, our own members, greet us as we step over the boundary line, and assure us that the AMERICAN PHARMACEUTICAL ASSOCIATION is still within its home limits' "—JOHN URI LLOYD.

President Adams called for the report of the House of Delegates. It was read by Secretary Kelly and, on motion duly seconded and carried, the report was received. (The report is embodied in the minutes of the First Session of the House of Delegates.)

Chairman H. A. B. Dunning was introduced. He presented the audit report as chairman of the Headquarters Building.

REPORT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION BUILDING FUND, BALTIMORE, MD., AUGUST 16, 1932.

July 19, 1932.

HYNSON, WESTCOTT & DUNNING, INC.
BALTIMORE, MD.

GENTLEMEN:

We have completed an examination and partial audit of the Subscription and Cash records of the AMERICAN PHARMACEUTICAL ASSOCIATION Building Fund for the period from July 17, 1931, to August 16, 1932, and submit herewith the following statements showing the results of our audit:

Exhibit A—Subscription Account—August 16, 1932.

Exhibit B—Cash Statement—August 16, 1932.

Exhibit C—Statement of Assets and Liabilities—August 16, 1932.

We have examined all subscription cards upon which changes were effected during the period under review, and have traced such changes to their respective entries in the cash records, and we also traced all receipts appearing on your cash record into the bank account. We did not verify any subscription accounts upon which payments had not been made during the period under review, neither did we confirm the balances of any accounts through correspondence with the subscribers.

On Exhibit A we present your Subscription Account as at August 16, 1932. Since our last examination three new subscriptions have been received and fifty-five subscriptions have been cancelled, which brings the total subscriptions to 15,833, of which 3035 are fully paid and 5239 have partial payments made on account, leaving 7559 subscriptions upon which no payment has been made. The balance remaining to be collected is $309,750.83, as compared with the uncollected balance at the time of our last examination of $313,321.78.

On Exhibit B we present a summary of Cash Receipts and Disbursements covering the full life of the Building Fund, which statement we believe to be self-explanatory.

We present on Exhibit C, a Statement of Assets and Liabilities of the Building Fund at August 16, 1932, excluding as an Asset the unpaid subscription accounts. We verified the balance of cash on deposit with the Maryland Trust Company by a confirmation received direct from the bank. We were unable to examine the securities owned by the Building Fund, due to the fact that two officers of the ASSOCIATION were required to gain access to the safe deposit box and Dr. Kelly, Secretary of the ASSOCIATION, was unable at this time to have a second officer visit the box with us, since other officers were out of the city.

We found the records of the Building Fund kept in an orderly manner, and we wish to express our appreciation of the courtesies extended us during our examination.

Respectfully submitted,

ELMER L. HATTER,
Certified Public Accountant.
Member—American Institute of Accountants.

HMS

AMERICAN PHARMACEUTICAL ASSOCIATION BUILDING FUND, SUBSCRIPTION ACCOUNT
AUGUST 16, 1932. *Exhibit A.*

Number of Subscriptions Shown on Previous Report	15,885	
Add—New Subscriptions	3	
	15,888	
Less—Subscriptions Cancelled during Period	55	
		15,833
Subscriptions—Fully Paid	3,035	
—Partially Paid	5,239	
—Upon Which No Payment Has Been Made	7,559	
		15,833
Total Amount Subscribed	$818,203.78	
Less—Amount of Subscriptions Cancelled during Period	1,862.50	
		$816,341.28
Amount Received:		
Fully Paid Subscriptions	459,297.75	
Partially Paid Subscriptions	47,292.70	
		506,590.45
Balance Remaining Uncollected		$309,750.83

AMERICAN PHARMACEUTICAL ASSOCIATION BUILDING FUND, CASH STATEMENT
AUGUST 16, 1932. *Exhibit B.*

Cash Received and Deposited.

From Subscribers:		
Amount Collected Prior to June 3, 1924, Deposited with the Baltimore Trust Co. and Exchange Bank Office	$ 15,897.02	
Amount Collected June 3, 1924, to August 16, 1932, and Deposited with the Drovers & Mechanics Office of the Maryland Trust Company	490,693.43	
		$506,590.45

Securities Sold:			
City of St. Louis 4% Bonds			10,000.00
Interest Received:			
Baltimore Trust Co.-Exchange Bank Office		1,557.89	
Drovers & Mechanics Office-Md. Trust Co.		62,858.95	
From Securities		1,256.76	
			65,673.60
Miscellaneous Receipts			6.99
Total Cash Received			$582,271.04

Cash Withdrawn.

Interest for Use in General Fund:			
Baltimore Trust Co.-Exchange Bank Office	$ 1,566.56		
Drovers & Mechanics Office-Md. Trust Co.	62,858.95		
From Securities	1,251.76		
		65,677.27	
Securities Purchased:			
City of St. Louis 4% Bonds (since sold)	10,000.00		
U. S. Liberty Bonds 4¼%, with Interest	269.86		
Chicago, Mil. & St. Paul R. R. Co. 5%—1975	189.74		
U. S. Treasury Bonds 3%—1951–1955	275,000.00		
		285,459.60	
Property Purchased:			
Ground and Preliminary Building Costs		200,360.09	
Property Expenses:			
Taxes	2,783.73		
Interest on Mortgage	3,003.00		
Insurance	20.00		
Claim for Injury on Property	50.00		
		5,856.73	
Miscellaneous Expenses:			
Protest Fees on Subscription Payments	5.29		
U. S. Tax on Checks	0.02		
Excess of Association Record of Withdrawals over Bank Record	4.32		
		.99	
			$ 557,354.68
Balance on Deposit:			
Drovers & Mechanics Office-Md. Trust Co.			$ 24,916.36

STATEMENT OF ASSETS AND LIABILITIES—AUGUST 16, 1932. *Exhibit C.*

(Exclusive of Unpaid Subscription Accounts.)

Assets:		
Cash on Deposit:		
Drovers & Mechanics Office-Maryland Tr. Co.	$ 24,916.36	

Other Property:		
Land and Preliminary Building Costs in Washington, D. C.	236,760.09	
U. S. Liberty Bonds 4¼% (at par)	200.00	
U. S. Treasury Bonds 3%—1951–1955 (at par)	275,000.00	
Chicago, Milwaukee & St. Paul R. R. Co. 5% 1975 Bonds (at par)	200.00	
		$537,076.45
Liabilities:		
Mortgage on Lot No. 7 of Land Purchased in Washington, D. C.		36,400.00
Excess of Assets over Liabilities		$500,676.45

Dr. Dunning read his address,[1] as Chairman; at the conclusion of which he said: "A more concise report I think could not have been drawn. It was read by your chairman, but it was drawn by your permanent secretary. He has told you only the salient facts concerning all of our worries, trials and tribulations. He hasn't told you in detail of the many difficulties that have been met by your committees that have represented you, and how they have been overcome. It would take so very, very many pages we wouldn't have time to read them in one afternoon, but we feel that it has all been well worth while. We also feel that our greatest difficulties have been overcome. They are in the past and should be forgotten.

"There are some things in regard to this enterprise that should be emphasized. I don't think that I can think of all of them on the spur of the moment, but one thing I think of is this: I wonder how many of us recognize the great ethical and professional advertising value this building will have for pharmacy when it is erected. It is located in, I think I can say, the most prominent location in the city of Washington. As you come over the new Memorial Bridge, on account of the altitude of the site it is the first building that will be seen when you reach the center of the bridge. You won't be able to miss it. It will be on the heights. That statement is made in a publication backed by the Fine Arts Commission. The first building that you will see coming over the new Memorial Bridge is the American Pharmaceutical Headquarters Building. Millions of people will see that building each year, and it will be such an impressive building, that if they don't know what it is, they will inquire.

"What does it represent? It represents pharmacy. What is pharmacy? Drug stores here and there. Many people will go into this building to learn what pharmacy represents, and we will have things there that will impress them. When they enter the building and go through that part of it which will be open to the public, and view the instructive materials that will be found there, and see what we have in the library, they will recognize that pharmacy is represented by a professional and scientific background.

"That has great value for us pharmacists in more ways than one. It has the spiritual value of making us proud of our calling, to feel that the public will begin to admire us a bit and to recognize in our work our worth to them. It has a practical value, too. It will make it easier for us commercial people to sell ourselves to the public. We manufacturers and distributors of drugs spend large sums of money on advertising. We spend it on direct advertising, indirect advertising and any kind of advertising that we think will bring financial reward.

"I feel that all of us manufacturers should recognize the advertising value of this symbol of pharmacy which will establish the prestige of our calling and in turn create a demand for our products; therefore, I ask all of you who are manufacturers, and all of you who know manufacturers; I also ask all of you who know men who are in the drug business, or associated with it, who have money, to begin to whisper something into their ears so that they will recognize the advertising value of their enterprise, and so that they will, through endowments and contributions to this cause, pay out some advertising money in this way rather than in the way they have been doing. Moreover, I ask you to do something that is a little bit more ethical, you might say. I want you to sell these men, on any grounds, you who are associated in any way with rich men in

[1] To be printed in November JOURNAL.

pharmacy, men who are so rich that when they plan for leaving the world and recognize they can't take their wealth with them, dispose of it for this purpose and that purpose and still have some millions left, or hundreds of thousands, or tens of thousands with which they do not know just what to do, but would like to give it to some good cause. There are many men like that if you could only get in contact with them, and I am serious about it. There are men who, if they were properly approached and properly sold on the value of this enterprise, because of their association with pharmacy. would say—'This is the thing to which when I die I will leave $100,000, or maybe $10,000.'

"Now I really mean this. One or two or three men cannot come in contact with these people who have money. It isn't our duty to get all of the money that is required to endow the great work that this institution is going to do. It is your duty. We will want big sums in the future. We have enough money to start this project, but we want more money to carry on. I have said this to you before. I suppose it didn't make much impression on you, but if you have any true interest in pharmacy you will begin hunting around in your hearts and minds to whom you can sell the idea.

"So much for the effort to get more money. Don't let me leave the thought in your minds that we haven't enough money to start, but we must have more money and we will get it. Some of it is assured to us. We must have more to carry out all the great things that are planned for the good of pharmacy and the benefit of mankind.

"I have here a detailed report of the finances of the headquarters building project. I am not going to read it to you. I will try to pick out a few items that will interest you. We had been promised, $816,341; we have actually obtained $506,000 of it in cash. That leaves $300,000 still out. That is a tidy little sum. We feel that those people who promised that $300,000 should pay it, but we know that most of them won't, or we know that some of them won't and some of them can't, but we do expect to get a considerable portion of it.

"We spent for the property that we purchased $236,760 and some cents. I should say it will be worth about two million dollars within ten years, and it is worth three or four times as much as we paid for it right now. It will be worth two million dollars in a few years to other people, but it is worth more than that to us, and we have it, and I think everybody agrees with me, including the Council, that we are going to keep it. There have been some efforts to take it from us.

"We have $275,000 in United States treasury bonds that is to be used to pay for the building.

"I won't review the matter of the subscriptions either, except to say to those who haven't heard it before, there was a total of 15,833 subscriptions. A large portion was subscribed by a large number of small retail druggists. By small men, I mean men having a capital of $3000, $4000, $5000 or $10,000, and they gave as much as $1000. And most of the retail druggists paid. I mean the ones who are actually heads of stores. The manufacturers naturally gave a considerable amount. In the aggregate they gave $300,000. The retailers gave $232,000. The wholesalers gave about $15,000 and miscellaneous $266,000."

Dr. Dunning described the pictures of the building, which were on display and concluded by saying:

"Every state in the Union subscribed to this cause, but I want particularly to tell you that three or four states subscribed less than Canada did."

President Adams introduced Chairman Herbert Skinner of the British Pharmaceutical Conference, who spoke in part as follows:

"Mr. President, Ladies and Gentlemen: I can assure you that it gives me very great pleasure to address you on almost any subject, but I am not quite sure what I am expected to address you on, to-day. As no information has been vouchsafed to me that I should speak I will turn to the one subject that we have in common, and that is our relationship to pharmacy both in Canada and the United States, and we will include Great Britain.

"It is now five years ago that my colleague on the Pharmaceutical Council of Great Britain, Mr. Marns and I—I was then president of the Society—came over to Canada and passed through the States. I found at that time that you in the States were discussing the question of preparing for a meeting in Toronto. It was put forward to me by two or three prominent men, who are present here, that probably we could send delegates from other parts of our Empire quite apart

from Canada. It seemed possible then, but since that time, as you are well aware, the economic situation has changed vastly, against us at least. So that the situation was not quite so easy.

"As Chairman of the British Pharmaceutical Conference, I might say the situation in Great Britain as to pharmacy is a little different than yours. I heard this morning quite a number of things in the Law Enforcement meeting, which were extremely interesting to me, and often disconcerting, because it seemed to me that you have not that same unity of organization through the States and throughout the Dominion of Canada that we have in Great Britain.

"This afternoon I listened to the able exposition of the new building you are putting up in Washington, to focus attention on pharmacy and to show that you are one solid, organized body. I congratulate you heartily on the move you have made. I think I am with the speaker when I say to you it is a very wise move. It will be a symbol of unity, and when one looks upon such a large country, with such a diversified population as you have in the United States, it is obvious you have much farther to go to secure that unity than in a small island like Great Britain.

"Now, there is one thing in which we of the British Pharmaceutical Conference differ largely from you, but we do not wish to accentuate the difference. However, we do maintain a difference in our organization between purely trade and purely professional pharmacy. Our Conference, which will begin on September 12th, at Aberdeen, is what we might call purely scientific. I do not think that would be possible in your case because of the vast areas you have to traverse. In our case we are singularly blessed, because if we traveled as far as you travel we should drown ourselves in the sea on all sides. But I sometimes think, and I have listened a good deal during these last few days, that you may be inclined to talk about pharmacy, but in the back of your minds is always the economic position. It is just as evident in Great Britain as it is here. There is a tendency more and more to accentuate the purely trading side of pharmacy in our own country, and to relegate the professional side to some obscure corner. We try to combat that, and I think we shall accomplish our purpose ultimately.

"We, in the old country, have thought considerably about dispensing, and I have heard a lot about dispensing of medicine since I have been here but, Mr. President, dispensing of medicine isn't the only element in pharmacy. It is an important one, but it isn't the only element. Pharmacy covers the whole field of medication and when I look at your Syllabus that you have here and that you have presented to your conference, I begin to feel that probably we have taken too narrow a view; and when we have seen so many of your drug stores and your soda fountains, we have been apt to think that behind those soda fountains there cannot be much that is worthy of the interest of a pharmacist. So I have taken the trouble to go in and see and find out for myself, and I was wonderfully impressed in many cases with the extreme efficiency of those departments.

"In my own case I have to take a wider field even than you can in your pharmacies where they are of the retail character. I have spent now over forty years in the service of voluntary hospitals, controlling the pharmaceutical departments. During those years I have seen the development of medication, I have seen physicians come with very small training in the materia medica they need, and they are more and more dependent upon pharmacy for telling them exactly what ought to be done.

"We, in our country, are now realizing the significance of the fact that things like pharmacology must be included in the training for competent pharmacists for the pharmaceutical department of any voluntary institution. I have had the pleasure of visiting quite a number of your hospitals, and although I do not think they have appreciated that point of view so far as I have been able to see, yet I am convinced that sooner or later you will have to face this fact: that your type of medication is varying so rapidly, if you do not have a syllabus sufficiently fluid so that you can adapt it to the changing era of medication in which we are living, pharmacy will have to take a back place.

"I am quite convinced from what a previous speaker has said, your intention is to focus a great deal—and believe me I agree with him, every word—that the essence is pharmacy, and if you can impress that upon the multitude, the crowds about you—that pharmacy is a profession that deals with the whole field of medication, then I think you will accomplish something, and you will, I hope, be traveling on the same road that we are trying in Great Britain.

"There is one other thing I would like to say. I know that some of you, at least, have been to England, and if any of you ever do come in the future I do hope, Mr. President, you will not

forget there is a strong society of pharmacists in Great Britain, and its main office is located in London. When you are in London, we should be very much pleased to meet you and show you around, and to acquaint you with how we are trying to progress to a more useful service to the community of professional pharmacy."

President Adams presented Dr. James H. Beal who delivered an address on "Our Common Inheritance." (It is printed in this issue of the JOURNAL.)

After the conclusion of Dr. Beal's address President Adams called on Chairman A. J. Wilkinson of the Council of the Canadian Pharmaceutical Association. The address is printed in this issue of the JOURNAL, under "Addresses and Reports."

Following the address of Mr. Wilkinson, Dean C. B. Jordan presented the third of a series of addresses on "Professional Pharmacy." It will be printed in the November JOURNAL.

Upon motion duly seconded and a vote the Second General Session was adjourned.

THIRD AND FINAL GENERAL SESSION.

The Third and Final General Session of the Eightieth Annual Meeting of the A. PH. A. was convened by President Adams at 8:30 P.M., August 26th. Secretary Kelly read the minutes of the Second General Session. (The minutes are not reprinted because they would duplicate the minutes of the General Session, as printed.) There being no objection the minutes were approved.

The final report of the House of Delegates was read by Secretary Kelly. (These are not published here because they are part of the minutes of the House of Delegates in this issue.)

The resolutions as presented and adopted by the House of Delegates were read in abstract by Chairman C. Leonard O'Connell. On motion duly seconded and a vote the resolutions were adopted. (They are printed in the September JOURNAL, pages 903–907.)

Mr. Eberle stated that he had received a letter from former President J. Uri Lloyd in which he had included a report of prior meetings in Canada. These notes have been printed in connection with the minutes of the Second General Session. It was also announced that the ASSOCIATION had elected as honorary president for this year Dean Charles F. Heebner of the Ontario College of Pharmacy, and as honorary members, President F. Gladstone Hines of the British Pharmaceutical Society and Chairman Herbert Skinner of the British Pharmaceutical Conference, Dr. George Urdang of Germany, and Dr. Hans Heger of Austria.

The next order of business was the presentation of the Ebert prize.

Chairman L. E. Warren of the Scientific Section, stated that the Ebert prize was established fifty-nine years ago and for fifty-eight years it has been awarded, not necessarily every year, but every year when a paper has been presented to the ASSOCIATION which the Committee, duly appointed, deemed worthy of the consideration. During the period mentioned the prize has been given about fifty times. During earlier years the prize was presented at the annual meeting when the paper was presented, but owing to the fact that many more papers are now offered it became necessary to make a study of the papers during the year and decide on who was entitled to the award. Chairman Warren said further that this year the prize had gone to a member in a foreign country who is not a citizen of the United States. The paper is entitled "Influence of Period of Vegetation and Development of Plants on the Alkaloidal Content of Hyoscyamus Niger L.," by Dr. Zdenek Klan, of Phraha, Czechoslovakia. (JOUR. A. PH. A., page 1163, November 1931.)

The Secretary was directed to send the medal to Dr. Klan with congratulations of the AMERICAN PHARMACEUTICAL ASSOCIATION, and also of the Scientific Section.

Dr. James H. Beal moved that the Secretary be requested to write to Dr. John Uri Lloyd expressing regret because of his inability to be present at this meeting and offer sincere wishes that he may be speedily restored to health. The motion was carried by vote.

There being no further business President Adams requested former President L. L. Walton to present the officers-elect. In assuming the duty Mr. Walton presented Charles W. Holton, the Treasurer. The Treasurer-Elect thanked the members for the recognition given him during the past several years.

Secretary E. F. Kelly was introduced and President Adams stated that it has been one of the greatest pleasures of his life to serve with the Secretary and that he would look back in years to come to the pleasant and cordial relations of the year. Secretary Kelly reciprocated the

kindness of President Adams and stated that the relations are mutual. He thanked the ASSOCIATION for the support the members have given him.

Installing Officer, L. L. Walton, said that the members-elect of the Council, with the exception of Dr. James H. Beal, were absent. He therefore presented Dr. Beal, and asked him to speak for himself and the other two council members.

President Adams congratulated Dr. Beal and the ASSOCIATION on the selection of the Council members. Dr. Beal thanked the members and referred to a number of former members of the Council who had ceased their labors.

A letter was read from Second Vice-President-Elect, G. H. Grommet, regretting his inability to be present.

The Installing Officer presented Rowland Jones, First Vice-President. He acknowledged the honor with thanks and pledged his service in carrying forward the purposes of the ASSOCIATION.

The President-Elect was introduced by Installing Officer, L. L. Walton.

President Adams welcomed the President-Elect and duly installed him and placed on him the insignia of office and expressed confidence.

President Philip in well-chosen words acknowledged the responsibility of office with assurances of the best of service possible and faith in the success of the ASSOCIATION and expressed his thanks for the honor.

President Philip, as the first act after induction into office, recognized Chairman Skinner of the British Pharmaceutical Conference.

Mr. Skinner said he was taken by surprise, but felt highly honored and greatly flattered by the first recognition of the new president. It was about five years ago when the idea came to him that the English-speaking pharmacists could be brought together. He was somewhat disappointed with the results, because he had hoped at least twenty-five members would be here from Great Britain, but the economic situation is such that they could not afford it. Chairman Skinner again expressed his appreciation and said that it is a proud privilege to have made many friendships at this meeting. After calling for other visitors, President Philip asked whether there was further business to be brought before the session.

Mr. Eberle moved a vote of thanks to the retiring president, seconded by James H. Beal and carried by a rising vote. H. C. Christensen was granted the privilege of speaking relative to the Century of Progress Exhibition—the International World's Fair—to be held in Chicago in 1933. He called attention to the pictures and drawings of grounds and buildings. He said in part:

There has been allotted by the World's Fair organization space for certain scientific exhibits without cost to the organizations sponsoring those exhibits. He was proud to say that pharmacy has been counted among the professions recognized in that manner, and the inferiority complex that has had possession of some in pharmacy should be forgotten, when it is realized that equal recognition with other medical sciences has been given to pharmacy.

He said further, that there is no question about the opening of the Fair on schedule time—that the project is not dependent on the financial conditions of Chicago, of the State nor the nation—the money necessary for carrying on the Fair has been raised; 38 states have entered into contracts to exhibit; the Government has voted $1,000,000 for its exhibits; ten million in bonds have been issued, of which the Chicago financiers have paid in seven millions in cash; one million dollars worth of tickets, in advance, have been sold and five million dollars worth of space. This assures success of the Fair, which will open on June 1 and close November 1, 1931.

Mr. Christensen said that the Committee, of which he is the chairman, will plan an exhibit that has as a purpose to impress the public with the service of pharmacy. The three features of the exhibit will be—professional, historical and educational.

President Philip felt certain that the AMERICAN PHARMACEUTICAL ASSOCIATION would do everything possible to make the pharmaceutical exhibit a success and every member will buy his ticket next year to Madison by way of Chicago. The delight given this year of having visitors from Great Britain causes the members to look forward to having visitors from all countries next year.

The Eightieth Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was adjourned at 9:30 P.M.

HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

ABSTRACTS OF THE MINUTES OF THE SESSIONS HELD IN ROYAL YORK HOTEL, TORONTO, CANADA, AUGUST 22-27, 1932.

The First Session of the House of Delegates was convened by Chairman Thomas Roach, Tuesday, August 23rd, 2:00 P.M. The Chairman stated that the session had begun thirty minutes late and that an effort will be made to complete the work of this session on time. The secretary read the roll of delegates, and a quorum being present the House was declared organized for business.

The names of delegates and organizations represented follow. The name of the organization or state is in Italics, names of delegates in capitals and small capitals, and names of the voting delegates in bold face.

The minutes of the House of Delegates are printed here and to avoid duplication in printing will also answer for the reports of the transactions made to the general sessions—the reports are abstracts of the minutes. The names of the delegates follow:

A. PH. A. SECTIONS.

Scientific—**E. E. Swanson,** Indianapolis, Ind.
Education and Legislation—**B. V. Christensen,** Gainesville, Fla.
Practical Pharmacy and Dispensing—**I. A. Becker,** Chicago, Ill.
Commercial Interests—**Rowland Jones Acting,** Gettsburg, So. Dak.
Historical Pharmacy—**L. E. Warren,** Washington, D. C.

A. PH. A. BRANCHES.

Baltimore—**John C. Bauer.**
Cincinnati—**Frank H. Freericks.**
Detroit—**E. P. Stout,** LEONARD A. SELTZER, L. W. ROWE, C. F. ALLAN, ROLAND T. LAKEY.
New York—**Hugo H. Schaefer,** ROBERT S. LEHMAN, HERBERT C. KASSNER.
Northern Ohio—**H. E. Benfield,** E. D. DAVY.
Northwestern Branch—**C. V. Netz,** E. B. FISCHER.
Philadelphia—**E. Fullerton Cook,** FREEMAN P. STROUP.
Pittsburgh—**C. Leonard O'Connell,** LOUIS EMANUEL, J. A. KOCH, L. K. DARBAKER.

NATIONAL ASSOCIATIONS.

American Association of Colleges of Pharmacy—**C. B. Jordan,** HUGH C. MULDOON.
American Drug Manufacturers Association—**Francis E. Bibbins.**
American Pharmaceutical Manufacturers' Association—**B. L. Maltbie.**
Federal Wholesale Druggists' Association—**W. W. Stephens,** J. C. KRIEGER.
National Association Boards of Pharmacy—**L. L. Walton,** FRANK A. WALTER, M. N. FORD, C. M. BREWER.
National Association Retail Druggists—**John W. Dargavel,** B. M. KEENE, THOMAS ROACH, JULIUS H. RIEMENSCHNEIDER.
National Wholesale Druggists' Association—**T. A. Henderson,** R. M. GRAHAM.
Proprietary Association—**P. I. Heuisler.**

STATE ASSOCIATIONS.

Alabama—**L. C. Lewis,** W. E. BINGHAM.
Arkansas—**Herbert W. Parker.**
California—**Mrs. W. Bruce Philip.**
Colorado—**Charles J. Clayton.**
Connecticut—**George F. Blackall,** HUGH P. BEIRNE.
Delaware—**Thomas S. Smith,** JAMES WISE, J. O. BOSLEY.
District of Columbia—**W. Paul Briggs,** C. J. FUHRMAN, A. C. TAYLOR.
Florida—**James H. Beal,** W. M. HANKINS, TOWNES R. LEIGH, W. J. HUSA, B. V. CHRISTENSEN, P. A. FOOTE.
Georgia—**Robert C. Wilson,** CHARLES H. EVANS.
Idaho—**E. O. Leonard.**
Illinois—**Wm. Gray,** CLYDE M. SNOW, SHERMAN WM. MORRISON, RALPH E. TERRY.
Indiana—**J. A. J. Funk,** R. B. ROTHROCK, F. W. MEISSNER, O. E. RUSSELL.
Iowa—**George Judisch,** J. W. SLOCUM, P. J. JEPSON.
Kansas—**A. H. King,** PERCY S. WALKER, FRANK MILNE, JOSEPH PARADOWSKY, ROY M. RILEY, W. MAC CHILDS.
Kentucky—**G. L. Curry,** GEORGE WILHELMI, J. W. GAYLE.
Maine—**Leon H. Marr,** CHARLES S. PIERCE, ALFRED P. MANSON, GEORGE O. TUTTLE.
Maryland—**R. L. Swain,** H. R. RUDY, GEORGE A. BUNTING.
Massachusetts—**Joseph M. Sisson,** CARL G. A. HARRING.
Michigan—**Clare F. Allan,** HOWARD H. HURD.
Minnesota—**Charles V. Netz,** GUSTAV BACHMAN, EARL B. FISCHER.
Mississippi—**Elmer L. Hammond.**
Missouri—**Charles E. Caspari.**
Montana—**Leon Richards.**
New Hampshire—**Theodore J. Bradley.**
New Jersey—**Robert P. Fischelis,** CHARLES W. HOLTON.
New York—**C. P. Wimmer.**
North Carolina—**E. V. Zoeller,** IRA W. ROSE.
North Dakota—**P. H. Costello.**
Ohio—**Frank H. Freericks,** M. N. FORD, EDWARD SPEASE.
Oklahoma—**J. C. Shows,** C. M. BREWER, THOMAS ROACH, DAVE MCLEMORE.
Oregon—**A. O. Mikkelsen.**
Pennsylvania—**Henry Brown,** EDWARD C. REIF.
Rhode Island—**James J. Gill,** W. HENRY RIVARD, CHARLES F. GILSON.
South Carolina—**Robert M. Dacus,** F. M. SMITH.
South Dakota—**Rowland Jones,** FRED L. VILAS.
Tennessee—**Gay Clark.**
Texas—**John B. Ray,** HENRY F. HEIN, E. B. OLIVER, W. D. ADAMS, FRANK A. WALTERS.
Virginia—**A. L. I. Winne,** W. S. NICKLIN, W. F. RUDD, W. G. CROCKETT.
Washington—**H. A. Langenhan,** R. W. CAIN.
West Virginia—**Frank B. Haymaker,** G. O. YOUNG, ROY B. COOK.
Wisconsin—**Edward J. Ireland,** G. V. KRADWELL.

THE COUNCIL.

James H. Beal, C. E. Caspari, H. V. Arny, T. J. Bradley, W. B. Day, H. A. B. Dunning, S. L. Hilton, Walter D. Adams, E. F. Kelly, C. W. Holton, J. G. Beard, E. G. Eberle, A. G. DuMez, Thomas Roach.

FRATERNAL DELEGATES.

Brooklyn College of Pharmacy—**F. C. A. Schaefer.**
Cincinnati College of Pharmacy—**Edward Voss, Jr.,** BERNARD J. KOTTE.
University of Oklahoma—**Ralph Bienfang.**
Indianapolis College of Pharmacy—

STUDENT BRANCHES.

University of Florida—**Dale Roth,** Gainesville.
State College of Washington—**W. W. Lindahl,** Pullman.
Pittsburgh College of Pharmacy—**S. M. Salevsky,** Pittsburgh.

The following fraternal delegates were presented and greeted: Edward Voss, Jr., and Bernard J. Kotte, Cincinnati College of Pharmacy; Henry Dale Roth, University of Florida, and S. M. Salevsky, Pittsburgh College of Pharmacy.

Vice-Chairman J. W. Slocum presided during the reading of the Chairman's address.

The address was referred to the Committee on Resolutions. It is printed in the September JOURNAL, page 919.

The Secretary's report was read and referred to the Committee on Resolutions.

REPORT OF THE SECRETARY.

June 30, 1931, to June 30, 1932.

The activities of the Secretary's office are concerned to the greater extent in coöperating with the officers, committees and other agencies of the ASSOCIATION in promoting the objects and purposes in which it is interested. The results are brought to attention in the various reports submitted during the meeting—and this report, therefore, will be limited to those matters not so reported.

The 1931 Meeting.—The proceedings of the Miami meeting as to the business and entertainment features were very completely reported in the pharmaceutical press and the Secretary acknowledges again his indebtedness to the publications for their uniform coöperation in making the activities of the ASSOCIATION better known.

The proceedings of the meeting were reported in the August, September and October issues of our JOURNAL. As is our custom, the addresses of the officers, the proceedings of the Council and the resolutions appeared in the first issue; the proceedings of the House of Delegates and of the General Sessions, and the proceedings of the American Association of Colleges of Pharmacy and National Association Boards of Pharmacy in the second; and the proceedings of the Sections and Conferences in the third issue. Individual papers presented during the meeting follow throughout the year. By this procedure, a complete report of the proceedings reaches the members within three months of the annual meeting with the exception of the papers of which we now have such a number as to make their publication a question of importance.

Within two weeks of the meeting, the resolutions adopted were sent to the publications, to the state and national associations, to boards of pharmacy, to the schools and colleges of pharmacy and to others interested, with the request that those resolutions of general interest be approved and supported. The request has been favorably acted upon, more generally than heretofore with the result that organized pharmacy is presenting a more uniform front with respect to the fundamental matters dealt with in the resolutions. May I again draw attention to the importance of the resolutions adopted by the ASSOCIATION and to the opportunity for leadership that they offer? An effort has been made to follow each resolution through and to see that its purpose is accomplished, so far as is possible. Time does not permit a report on each one but this can be made to the Committee on Resolutions. A number of the resolutions should be re-adopted so as to make their purpose effective.

The 1932 Meeting.—The arrangements for the Toronto meeting have been more complicated on account of the joint sessions and of the increased attendance. Fortunately, the travel and hotel accommodations have greatly simplified the arrangements. We are very fortunate also to have had the coöperation of the Canadian Pharmaceutical Association and of the Ontario Retail Druggists' Association and of an experienced and able local secretary and general committee of arrangements.

Within a short time after the Miami meeting, Secretary Stanbury of the Canadian Association was elected Local Secretary for the A. PH. A. and has been the liaison officer. A committee on arrangements was promptly selected and the work has been aggressively pushed by that group of enthusiastic and effective workers.

Secretary Stanbury and your Secretary met in New York in February when the tentative plans were made. After they were studied by the general committee, Dr. Bradley, as a member of the Committee on Standard Program very kindly went to Toronto for an extended conference during which final plans were decided upon. You will experience the results during the week. We are deeply indebted to our Canadian friends for their splendid coöperation and their enthusiastic efforts for the success of the Canadian–American Convention of 1932. I should also

mention the very helpful participation in the program of our friends and associates from Great Britain and other countries.

The publicity for the convention has been exceptionally general and we are again indebted to the pharmaceutical press of both countries for the generous attention they have accorded the meeting. Its international character and the opportunity offered for the consideration of matters of mutual interest have been emphasized.

The Program.—The Council has continued the Committee on Standard Program, with the Secretary as a member, to advise with him and others in arranging the program of the annual meeting. Through the coöperation of our Canadian associates, it has been necessary to modify our regular program but very little for this joint convention. To successfully carry out the program requires strict adherence to the schedule and this is earnestly requested, especially of the officers of the various divisions.

The activities of the ASSOCIATION have again increased to the extent that time alone will soon require further simplification of the program. Each division, however, seems to have a worth-while purpose and to be doing effective work in its field. It has been the object of the A. PH. A. to encourage development in every division of pharmacy and this policy necessarily leads to specialization in the program and to an increase in the divisions.

Pharmacy and the Government.—The Secretary has given increased attention during the year to this phase of our work. The most important favorable developments have been the following:

First, the issuance by the Veteran's Administration of Supplement No. 8, Revised Regulations for Positions in the Field Service in which pharmacists were changed to Grade 1 in the Professional and Scientific classification from the Sub-Professional, and the designation of assistant pharmacist was changed to Pharmacist's Assistant. This action will not affect all pharmacists in the administration but it is a decided recognition of pharmacy as a profession and an administrative step in the right direction.

Second, the issuance of Guidance Leaflet No. 14, on Pharmacy as a Career, by the Office of Education of the U. S. Department of the Interior as one of a series devoted to the professions as a career. The leaflet has since been revised on the basis of the four-year course, is being re-issued and will provide an authoritative publication on pharmacy as a public health profession.

Third, continued conferences with the Surgeon General of the Army and his associates looking toward the improvement of the pharmaceutical service in the army.

Fourth, the issuance of the American Council on Education of the Handbook of American Universities and Colleges in which schools and colleges of pharmacy are listed as professional institutions of higher learning.

Fifth, the issuance by the Bureau of Standards of the 1932 revision of the Standards Year Book, in which the activities of the A. PH. A. in this field are listed and of the National Directory of Commodity Specifications in which the United States Pharmacopœia, the National Formulary and the Pharmaceutical Recipe Book are given prominence as providing standards for drugs and medicines.

Sixth, the participation of the Secretary representing the A. PH. A. and the National Drug Trade Conference in conferences between a special committee of the Conference of Commissioners of Uniform State Laws and the U. S. Bureau of Narcotics and other pharmaceutical organizations in reference to uniform state narcotic laws. Organized pharmacy has insisted on being consulted in the framing of legislation being considered by the Commissioners on Uniform State Laws for the regulation of narcotic drugs by the states. This legislation is one of the important subjects on the program of the Conference of Pharmaceutical Law Enforcement Officials on Thursday morning.

No important changes affecting pharmacy have occurred in the Public Health Service or in the Navy. A pharmacist has not been appointed to membership on the Advisory Health Council of the Public Health Service, although the ASSOCIATION has requested that this recognition be given. The ASSOCIATION is continuing its coöperation with the Service in connection with the control of narcotics with especial reference to the better control of the distribution of exempt narcotic preparations.

Hospital Pharmacy.—The Council on Medical Education and Hospitals of the American Medical Association has not announced the results of its study of the preparation and distribution

of drugs and medicines in hospitals, and no action has been taken by the American Medical Association on the request of this ASSOCIATION that a requirement as to the hospital pharmacy be included in the requirements of an approved hospital.

It is suggested that a resolution be adopted renewing this request as it is important that the preparation, dispensing and distribution of drugs and medicines in hospitals be safeguarded as carefully as through other channels.

The A. PH. A. has continued its membership in the American Conference on Hospital Service and was represented by two delegates, Messrs. Becker and Gray, at the last annual meeting of the Conference.

Relations with State and National Associations.—The ASSOCIATION was represented at a large number of the meetings of these organizations during the year and our representatives were shown every courtesy and consideration. President Adams has been very helpful in this connection as have been the other officers of the ASSOCIATION and individual members. It is impossible to name all of those who have coöperated and to whom our thanks are due.

Four state associations celebrated their Golden Anniversaries during the year: Alabama, Arkansas, Louisiana and Maryland. President Adams attended those of Alabama, Arkansas and Maryland, and Editor Eberle that of Louisiana.

At the most of the state association meetings their official delegates submitted reports on the Miami meeting of the A. PH. A. Such reports are very helpful in informing the members of the state associations of the activities of the A. PH. A., and the delegates to this meeting are urged to submit official reports to the organizations they represent. In addition to the notes you may make during the meeting, full reports of the proceedings of the various divisions of the ASSOCIATION will be found in the September, October and November issues of the JOURNAL, on which a comprehensive and yet condensed report can be based.

Reference should be made to the action of several state associations in establishing sections for the consideration during their annual meetings, of practical pharmacy and dispensing and of other phases of professional practice. A number of state and national associations have had such sections heretofore and it is encouraging to note the increased attention being given to the professional as well as to the economic phases of pharmacy. These developments will make the work of the associations of greater value to their members and will contribute to the general advancement of pharmacy in all of its divisions.

The A. PH. A. has continued its representation in and coöperation with the National Drug Trade Conference, the Metric Association, the American Association for the Advancement of Science, the National Conference on Pharmaceutical Research, the American Conference on Hospital Service, the Drug Trade Bureau of Public Information, the Committee on Pharmacy Exhibit at the Chicago World's Fair in 1933 and the International Pharmaceutical Federation.

An invitation has been extended to the latter body to hold its annual meeting in or near Chicago in 1933 at the same time and place with the A. PH. A.

During the year, the A. PH. A. became a charter member of the Inter-Society Color Council, the purpose of which is to establish color standards.

The Headquarters Building.—The Secretary's office has been called upon to give greater attention to this project during the year just closed. Legislation by the Congress was required to close the short street on which our property faces and to give us title to or perpetual use of Government property between the closed street and Constitution Avenue. Many hearings and conferences were necessary to secure this legislation and to bring about a final decision as to the location of the building. The details will be given in the report of the committees on the Headquarters Building. Work on the project is now under way and the first and central unit in the plan will soon be an accomplished fact.

The work of the editor and the secretary has been hampered by inadequate quarters and it will be a great relief to proceed with activities that have been so long delayed.

Membership.—The total membership on July 1, 1932, was about eight per cent lower than on the same date in 1931. The receipts from dues in 1931 was about five per cent higher than in 1930 and for this increase we are indebted to our members and to the Membership Committee. During the first six months of this year, the receipts from dues have dropped about twenty per cent as compared to the same period of 1931—and we consider it fortunate that the decrease could be held to this figure in view of the financial conditions.

Bills for dues are sent out in December of each year and statements follow monthly, beginning February first.

From July 1, 1931, to July 1, 1932, 77 members have resigned, 721 have been suspended and the deaths of 51 have been reported. From July 1, 1931, to date 343 have been elected to membership with the payment of dues and 7 through subscription to the Headquarters Building Fund.

The total membership is approximately 4600, of which 20 are Honorary Members and 172 Life Members. Four have become Life Members through the payment of dues for thirty-seven consecutive years: Wilhelm Bodemann, Chicago, Ill.; Theodore J. Bradley, Boston, Mass.; Edward A. Hay, Portland, Me.; Henry K. Mulford, Philadelphia, Pa.; and 5 through fixed payment in accordance with the By-Laws: Miers Busch, Philadelphia, Pa.; George D. Rosengarten, Philadelphia, Pa.; Freeman P. Stroup, Philadelphia, Pa.; Edward N. Webb, Worthington, Ohio; Harry L. Handsman, Brooklyn, N. Y.

The report of the Committee on Membership will give additional information.

Local Branches.—The Local Branches of the ASSOCIATION have held the usual meetings during the year and have had splendid programs. The proceedings of these meetings have been reported in the JOURNAL and time does not permit a review of them and of the contributions which the Local Branches have made to the progress of the ASSOCIATION. The New York Branch devotes one meeting early in each year to a joint session with the officers of the state pharmaceutical association and the chairmen of its committees. Reports are made by these officers and committee chairmen, providing a splendid opportunity for acquainting the pharmacists, midway between annual meetings of the state association, with the work of the ASSOCIATION and the new problems that have arisen. Other Local Branches may find it advisable to adopt this procedure which has been found very helpful in New York.

The active Local Branches are as follows: Baltimore, Cincinnati, Chicago, Detroit, New York, Northern Ohio at Cleveland, Northwestern at Minneapolis, Philadelphia, Pittsburgh and Western New York at Buffalo. No Local Branches were established during the year.

Student Branches.—Active Student Branches are now established in the Pittsburgh College of Pharmacy, South Dakota State College, State College of Washington, University of Florida, Western Reserve University, and University of Wisconsin. The University of Washington Branch was active for part of the year only.

The Detroit Local Branch provides for the participation in its work and programs by the students of pharmacy in the three teaching institutions in Michigan.

Student Branches were established at the Universities of Florida, Western Reserve and Wisconsin during the year and others are in process of being organized.

The proceedings of the meetings of the Student Branches have been reported in the JOURNAL and these organizations are doing very effective work. Representatives of several Student Branches are in attendance at this meeting.

Receipts of the Secretary's Office.—Attached are detailed financial statements of the receipts from January 1 to June 30, 1932, from Dues, the JOURNAL, the National Formulary, the Pharmaceutical Recipe Book, Bulletins, PROCEEDINGS, YEAR BOOKS, Badges and Bars, Buttons and Pins and Miscellaneous Items. Remittances to the Treasurer and the balance on hand are also set out.

The attached reports also give detailed information in reference to the printing, binding and sale of the National Formulary and the Pharmaceutical Recipe Book.

The Secretary's annual financial report for the calendar year 1931 was submitted with that of the Treasurer, and audited as provided for in the By-Laws.

SUMMARY OF RECEIPTS AND REMITTANCES, SECRETARY'S OFFICE, JANUARY 1 TO JUNE 30, 1932

Receipts by Secretary.

Dues:	
Membership only	$ 144.00
Membership and JOURNAL, 1927–1928–1929	15.00
Membership and JOURNAL, 1930	30.00
Membership and JOURNAL, 1931	286.30
Membership and JOURNAL, 1932	6790.35
Membership and JOURNAL, 1933	10.00
	$7275.65

JOURNAL	4409.42	
National Formulary	1847.64	
Recipe Book	872.92	
YEAR BOOKS	83.25	
Bulletins		
Interest on Deposit	6.78	
Total Receipts		$14,495.66

Remittances to Treasurer.

Jan. 30, 1932, Check No. 119	$2365.88	
Feb. 27, 1932, Check No. 120	2419.75	
Mar. 18, 1932, Check No. 121	2484.59	
Apr. 14, 1932, Check No. 122	2026.54	
Apr. 30, 1932, Check No. 123	669.68	
May 24, 1932, Check No. 124	770.53	
June 10, 1932, Check No. 125	2786.66	$13,523.63
Balance on Deposit, Baltimore Trust Co.		$ 972.03

NATIONAL FORMULARY.

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F., JANUARY 1 TO DECEMBER 31, 1931.

Receipts.

Sales for quarter ending March 1, 1931, N. F. V	$1725.60	
Sales for quarter ending June 1, 1931, N. F. V	1404.00	
Sales for quarter ending September 1, 1931, N. F. V	2422.90	
Sales for quarter ending December 1, 1931, N. F. V	2652.00	
Use of text to December 1, 1931, N. F. V	20.00	
Sales for year, Dec. 1, 1930, to Nov. 30, 1931, N. F. III	1.50	
Sales for year, Dec. 1, 1930, to Nov. 30, 1931, Bulletins N. F. V	45.00	
Total Receipts		$8,271.00

Disbursements.

N. F. V:		
Expenses Exhibit Phila. Meeting A. M. A	$ 79.60	
Coupons	12.95	
Printing and Binding	780.68	
N. F. VI:		
E. N. Gathercoal, General and Traveling Expenses	$ 720.65	
Samuelson Duplicating Co., Bulletins, etc	366.65	
Pilcher-Hamilton-Daily Co., Binders, etc	191.11	
AMER. PHARM. ASSOC. JOURNALS and Reprints	48.16	
E. P. Douglas, Printing	120.60	
William Heim, Envelopes	28.00	
Leon Monell, Prescription Survey	50.00	
Natl. Confer. Pharm. Research, Membership	25.00	
Harry Harris, Prescription Survey	156.00	
Gerston Bruch, Prescription Survey	41.00	
J. A. Dorjohn, Lettering N. F. Binders	9.00	
C. P. Shepperd, Clerical Services	18.00	
Ruth Bos, Clerical Services	4.00	
H. P. Gilpin Co., Drugs and Chemicals	8.27	
Royal Typewriter Co., Repairs	3.57	
Expenses 1931 Meeting Committee on N. F., Pocono Manor Inn	1039.14	$3,702.38

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F., JANUARY 1 TO JUNE 30, 1932.

Receipts.

Sales quarter ending March 1, 1932—N. F. V	$ 714.34	
Sales quarter ending June 1, 1932—N. F. V	1084.80	
Use of text quarter ending June 1, 1932—N. F. V	5.00	
Sales quarter ending June 1, 1932—N. F. III	1.50	
Sales to June 30, 1932, Bulletins N. F. VI	42.00	$1,847.64

Disbursements.

N. F. V:		
Expenses Exhibit 1932 Meeting A. M. A	$ 222.31	
N. F. VI:		
E. N. Gathercoal, General and Traveling Expenses	167.12	
Samuelson Duplicating Co., Bulletins, etc	293.85	
Pilcher-Hamilton-Daily Co., Binders and Paper	92.90	
Glenn L. Jenkins, Expenses Sub-Committee No. 2	154.20	
H. A. Langenhan, Expenses Sub-Committee No. 3	45.00	
Merck & Co., Chemicals Sub-Committee No. 2	7.22	
L. A. Engel Press, N. F. Circulars	28.25	$1,010.85

SUMMARY OF RECEIPTS AND DISBURSEMENTS ON ACCOUNT OF N. F., JANUARY 1, 1926, TO JUNE 30, 1932.

Receipts.

1926	$45,318.21	
1927	17,460.75	
1928	14,565.15	
1929	12,718.40	
1930	9,940.05	
1931	8,271.00	
1932 (to June 30)	1,847.64	
Total Receipts		$110,121.20

Disbursements.

1919–1920	$1,038.89	
1921	1,169.98	
1922	404.21	
1923	227.72	
1924	95.59	
1925	236.30	
1926	20,857.09	
1927	8,389.38	
1928	3,560.41	
1929	3,556.60	
1930	6,123.32	
1931	3,702.38	
1932 (to June 30)	1,010.85	$50,372.72

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO DECEMBER 31, 1931.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1931	Buckram	719	$2.40	$1,725.60	$1,725.60
	Leather	0	4.80		

June 1, 1931	Buckram	581	2.40	1,394.40	
	Leather	2	4.80	9.60	1,404.00
Sept. 1, 1931	Buckram	1,015	$2.40	$2,436.00	
	Leather	0	4.80		
	Less 2 Leather returned, and		9.60		
	1 Buckram charged		3.50	13.10	2,422.90
Dec. 1, 1931	Buckram	1,105	$2.40	$2,652.00	
	Leather				2,652.00
	Total Sales for 1931				$8,204.50

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO JUNE 1, 1932.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1931	Buckram	387	$2.40	$ 928.80	
	Leather	0			
	Less freight and drayage			214.46	$ 714.34
June 1, 1931	Buckram	450	$2.40	$1,080.00	
	Leather	1	4.80	4.80	1,084.80
	Total Sales for 1932 (to June 1)				$1,799.14

SUMMARY OF COPIES OF N. F. V PRINTED AND BOUND TO JUNE 1, 1932.

Series.	Buckram.	Leather.	Total.
A	19,561	500	20,061
B	10,023	...	10,023
C	5,000	...	5,000
D	5,000	...	5,000
E	5,000	...	5,000
F	1,043	...	1,043
	45,627	500	46,127

SUMMARY OF COPIES OF N. F. V—DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO JUNE 1, 1932.

	Buckram.	Leather.	Total.
Copies used in copyrighting and for complimentary distribution through the Mack Printing Co.	33	12	45
Copies distributed complimentary through the Chemical Catalog Co.	32	...	32
Copies sold by the Chemical Catalog Co.	18,021	107	18,128
Copies distributed complimentary through the J. B. Lippincott Co.	15	...	15
Copies sold by J. B. Lippincott Co.	26,932	28	26,960
Copies held in stock by J. B. Lippincott Co.	594	353	947
	45,627	500	46,127

PHARMACEUTICAL RECIPE BOOK—SUMMARY OF RECEIPTS AND DISBURSEMENTS, P. R. B. I.

Receipts.

1929	$5,256.00	
1930	1,920.98	
1931	3,641.80	
1932 (to June 1)	872.92	
Total		$11,691.70

Disbursements.

1917	$ 10.50
1918	19.26
1919	.....
1920	1.40
1921	23.98
1922	42.93
1923	.....
1924	470.70
1925	572.47
1926	336.38
1927	95.08
1928	766.66
1929	9,838.65
1930	51.00
1931	61.96
1932 (to June 1)	.....
Total	$12,290.97

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO DECEMBER 31, 1931.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1931	Buckram	527	$2.78	$1,465.06	$1,465.06
June 1, 1931	Buckram	350	2.78	973.00	973.00
Sept. 1, 1931	Buckram	228	2.78	633.84	633.84
Dec. 1, 1931	Buckram	205	2.78	569.90	569.90
Total					$3,641.80

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO JUNE 1, 1932.

Quarter Ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1932	Buckram	39	$2.78	$ 108.42	$ 108.42
June 1, 1932	Buckram	275	2.78	764.50	764.50
Total					$ 872.92

SUMMARY OF COPIES OF P. R. B. I—PRINTED AND BOUND TO JUNE 1, 1932.

	Buckram.
Series A	5000

SUMMARY OF COPIES OF P. R. B. I DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO JUNE 1, 1932.

Copies distributed complimentary	89
Copies sold	4213
Copies held in stock	698
Total	5000

ACCOUNT OF YEAR BOOKS, PROCEEDINGS, BULLETINS.

1. Sales:

1931	$2,319.17
1932 (to June 30)	83.25
Total	$2,402.42

2. Expenses:

1931	$9,616.63
1932 (to June 30)	3,768.34
Total	$13,384.97

E. F. KELLY, *Secretary.*

The Treasurer's report was deferred to the Second Session.

Chairman S. L. Hilton read the annual report of the Council, which was received, approved and referred to the Committee on Resolutions. It follows:

ANNUAL REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES.

The proceedings of the Council are regularly published in the JOURNAL OF THE ASSOCIATION and this report is submitted to summarize them for the information of the House.

The reorganization meeting of the Council for 1931–1932 was held in Miami, Fla., on Friday, July 31, 1931, following the final General Session of the ASSOCIATION. The following officers were elected for the year: S. L. Hilton, *Chairman;* C. H. LaWall, *Vice-Chairman;* and E. F. Kelly, *Secretary.*

E. G. Eberle was elected *Editor* of the JOURNAL; A. G. DuMez, *Editor* of the YEAR BOOK; W. B. Day, member of the Commission on Proprietary Medicines for a term of five years; H. W. Youngken and J. C. Munch, members of the Committee on Research for a term of five years; and W. J. Husa to fill the unexpired term of J. C. Peacock, resigned, ending in 1934; E. N. Gathercoal, C. M. Sterling, J. A. Koch and E. B. Fisher, members of the Committee on Unofficial Standards for a term of four years. The Committee on RECIPE BOOK was continued for one year.

The president was authorized to make such appointments as are now authorized, to fill vacancies as they may occur and to make additional appointments as may be necessary or desirable. All appointments made by the president and the chairman of the Council have appeared in the official roster in the JOURNAL.

The chairman was authorized to appoint an executive committee of the Council should the occasion arise. As a meeting of the Council or of an executive committee was not found necessary, in the interim, the business of the Council has been transacted by mail. Fourteen Council Letters, covering 58 pages and submitting 104 items and 41 motions have been sent to members of the Council. Among the more important items so transacted the following are mentioned:

The resignation of Dr. Edward Kremers as a candidate for the Presidency of the ASSOCIATION was accepted.

Dr. R. B. J. Stanbury was chosen as Local Secretary, the Hotel Royal York as the Headquarters and the week of August 22nd–27th as the time for the 1932 meeting in Toronto.

The purchase of $275,000 in U. S. Treasury Bonds, 3%, maturing 1951–1955 for the Headquarters Building Fund, and a $1000 bond, Town of Montclair, N. J., 4¼%, maturing October 15, 1945, each for the Ebert Legacy, Life Membership, Research and Procter Monument Funds, was approved.

The contract for printing and mailing the JOURNAL for 1932 was awarded to the Mack Printing Company.

A budget of $39,525.00 for the current expenses of the ASSOCIATION for 1932 was adopted.

The accounts of the ASSOCIATION for 1931 were audited by W. A. Johnson & Co., Certified Public Accountants, of Baltimore, Md., and their report, with a summary of the accounts, was published in the JOURNAL for February 1932.

The invitation for the A. PH. A. to become a charter member of the newly organized Inter-Society Color Council was approved and $25.00 appropriated for the annual dues.

Revised bids for the erection of the Headquarters Building were received and upon the recommendation of the chairman of the Headquarters Building Committees and of the architect, the president, secretary and treasurer were authorized to enter into a contract for its erection with the George A. Fuller Company of New York, in accordance with the terms of the contract drawn by Architect John Russell Pope. Attached is a copy of Public Resolution No. 16 as adopted by the Congress and signed by the president, closing upper Water Street between 22nd and 23rd Streets and authorizing the transfer of property between the Government and the ASSOCIATION as required for the proper location of the Headquarters Building and the widening of 23rd Street as an approach to the Lincoln Memorial.

The organization of the proposed American Council on Pharmaceutical Education and the proposed Constitution and By-Laws of the Council were endorsed and are submitted herewith, with a favorable recommendation for approval with the understanding that the contribution of the A. PH. A. to the budget of the Council be determined after the Council is organized and has determined the required budget.

Two hundred and fifty dollars was appropriated to match an equal amount appropriated by the N. A. R. D. to provide window strips to be sent out with the medicinal plant maps supplied by the N. W. D. A. for use in the coming observance of Pharmacy Week.

Permission to use the text of the N. F. V for partial reproduction was granted to a number of applicants, all at the usual charge of $5.00 with the exception of the request of the N. A. R. D. which was granted without charge.

Three hundred and fifty-four applicants have been elected members through the payment of dues and through subscriptions to the Headquarters Building Fund, and one applicant was elected a Life Member upon payment of $100. Four members became Life Members through the payment of dues for thirty-seven consecutive years and 5 through the payment of fixed sums in accordance with the By-Laws.

The Council approved the program of this meeting in Toronto and will appreciate suggestions for the improvement of the program of future meetings.

The second meeting of the Council was held in Toronto on Monday, August 22nd, at which the following business was transacted:

Arrangements were made for the annual meeting of the Executive Committee of the N. A. R. D. and the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, which will be held, this year, in Boston, Mass., in connection with the convention of the N. A. R. D. These joint meetings have provided an opportunity for the consideration of matters of mutual interest to the two organizations.

Reports were received from the Committees on Finance, on Property and Funds, on Recipe Book, on Publications, on Standard Program, on National Formulary and on Research, from the Commission on Proprietary Medicines and from the Editors of the JOURNAL and of the YEAR BOOK. The reports covered the work of the ASSOCIATION in these several important fields and will be printed in the JOURNAL for September. The members of the ASSOCIATION are urged to read them carefully as time does not permit a review of them here.

The ASSOCIATION has received from the estate of the late Franklin M. Apple of Philadelphia, a fund of more than $1600, and a special committee was appointed to suggest the most appropriate means of recognizing the generosity of Mr. Apple and the final disposition of the fund. The contract for printing and distributing the YEAR BOOK, Volume 19, covering 1930, was awarded to the Lord Baltimore Press of Baltimore, Md., and it is expected that the book will be completed during this year.

Nominees for the offices of *Honorary President*, *Secretary* and *Treasurer* of the ASSOCIATION for 1932–1933 were selected and will be reported to the House of Delegates in a separate communication.

The following were elected *Honorary Members* of the ASSOCIATION: George Urdang, of Germany; Hans Heger, of Austria; F. Gladstone Hines, of England; Herbert Skinner, of England.

Respectfully submitted for the Council,

S. L. HILTON, *Chairman*.

Chairman Roach announced the appointment of the committee on nominations as follows:

Chairman, George Judisch, Iowa; C. B. Rothrock, Indiana; M. N. Hankins, Florida; T. J. Bradley, Massachusetts; H. H. Schaefer, New York; Rowland Jones, South Dakota; H. A. Langenhan, Washington; Henry Hein, Texas; F. W. Haymaker, West Virginia.

The following were named on the Committee on Resolutions:

Chairman, A. L. I. Winne, Virginia; H. W. Parker, Arkansas; J. W. Dargavel, Minnesota; C. L. O'Connell, Pennsylvania; W. B. Day, Illinois; R. P. Fischelis, New Jersey; R. L. Swain, Maryland; W. Henry Rivard, Rhode Island; C. J. Clayton, Colorado.

On motion of James H. Beal, seconded, and a vote members of the Canadian Associations were granted privileges of the floor. There being no further business the session was adjourned.

SECOND SESSION.

The Second Session of the House of Delegates, A. PH. A., was convened by Chairman Thomas Roach, August 24th, at 4:15 P.M. The reading of the minutes of the First Session was dispensed with. Treasurer C. W. Holton read his report which was received for publication. It follows:

REPORT OF THE TREASURER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, C. W. HOLTON, JANUARY 1 TO JUNE 30, 1932.

PROPERTY AND FUNDS OF THE ASSOCIATION.

	June 30, 1931.	June 30, 1932.
Current:		
Savings and Checking Accounts	$ 11,871.17	$ 1,090.53
Secretary's Account, Baltimore Trust Co.	528.35	972.03
Total	$ 12,399.52	$ 2,062.56
Permanent:		
Endowment	$ 13,765.86	$ 14,340.42
Centennial	5,262.91	5,455.55
Ebert Legacy	7,506.96	7,792.32
Ebert Prize	1,039.04	1,081.54
Life Membership	40,316.33	42,046.89
Endowed Membership	125.00	125.00
Research	61,461.80	63,441.28
Headquarters Building, Bonds and Cash	307,397.45	301,149.88
Headquarters Building, Property	194,507.37	200,360.09
Total	$631,382.72	$635,792.97
Trust:		
Procter Monument	$ 15,759.82	$ 16,349.57
Remington Honor Medal	1,353.93	1,368.18
Total	$ 17,113.75	$ 17,717.75
Summary:		
Assets	$643,782.24	$637,855.53
Held in Trust	17,113.75	17,717.75
Total	$660,895.99	$655,573.28
Decrease June 30, 1931, to June 30, 1932		$ 5,322.71

SECURITIES, PROPERTY AND CASH HELD FOR THE ASSOCIATION AND FOR THE TRUST FUNDS, JUNE 30, 1932.

Securities:		
Liberty Bonds, 4th issue, 4¼%	$ 44,500.00	
State of Massachusetts Bonds, 3%	14,000.00	
State of Tennessee Bonds, 4½%	3,000.00	
State of Illinois Bonds, 4%	6,000.00	
State of North Carolina Bonds, 4½%	7,000.00	
City of Baltimore, Md., Bonds, 4%	40,000.00	
City of Chattanooga, Tenn., Bonds, 4½%	8,000.00	
City of Dallas, Texas, Bonds, 4½%	11,000.00	
City of Newark, N. J., Bonds, 4%	6,000.00	
City of Paterson, N. J., Bonds, 4¼%	1,000.00	
Chicago, Milwaukee, St. Paul and Pacific R. R. Co., Bonds, 5%	200.00	
Town of Montclair, N. J., Bonds, 4¼%	4,000.00	
U. S. Treasury Bonds, 3% (Head. Bldg. Fund)	275,000.00	
City of Detroit, Mich., Bonds, 4%	1,000.00	$420,700.00

Property:		
Lots 3, 4, 5, 7, 12, 13, 14, 15, 16, 17, 801 and 802, Square 62, Washington, D. C.	$236,760.09	
Less Mortgage on Lot No. 7	36,400.00	$200,360.09
Cash:		
Boston Penny Savings Bank, Boston, Mass., Savings Account.	$ 376.69	
Merchants & Newark Trust Co., Newark, N. J., Checking Account	713.84	
Baltimore Trust Co., Baltimore, Md., Checking Account	7,672.78	
Maryland Trust Co., Baltimore, Md., Savings Account, 3½% Compounded Semi-annually	25,749.88	$ 34,513.19
Total		$655,573.28

The property entry represents the actual cost of the site in Washington, D. C., for the Headquarters Building including recording, insurance of title and other incidental charges, advance payments on architects' and engineers' fees, etc. Record should be made of the fact that the original deposit on the site, amounting to $5000.00, was paid by Dr. H. A. B. Dunning personally and credited to his subscription, and therefore this amount does not appear in the bank deposits of the Headquarters Building Fund although it is included in the total of collections for the fund.

The net total of subscriptions to the Headquarters Building Fund on June 30, 1932, was approximately the same as on July 1, 1931, $817,156.43, and the total of collections, including the $5000.00 deposit toward the purchase of the site made by Dr. H. A. B. Dunning which was credited to his subscription, was $506,365.30. The chairman of the Campaign Committee will give further details in his annual report.

The campaign has cost in total $61,502.49 of which amount $13,023.94 was spent in 1924, $11,944.05 in 1925, $10,007.06 in 1926, $9297.31 in 1927, $10,627.34 in 1928, $3333.61 in 1929, $1031.25 in 1930, $1495.98 in 1931 and $741.95 to June 30, 1932. The cost of the campaign has been paid from the interest on the fund and all collections have been used for the purchase of the site, to pay taxes and insurance, architects' and engineers' fees, etc., or are in hand.

The Secretary's report will show receipts from Dues, the JOURNAL, the National Formulary, Recipe Book, YEAR BOOKS, PROCEEDINGS, Bulletins, Badges and Bars, Buttons and Pins and Miscellaneous Items, which are collected by him and deposited in the Secretary's account in the Baltimore Trust Company. These receipts are transferred by check, accompanied by itemized deposit slips, to the ASSOCIATION's checking account in the Merchants and Newark Trust Company from which all budget expenses are paid by voucher check.

The annual report of the Treasurer for the calendar year 1931 was audited and approved by W. Albert Johnson & Co.—the auditors approved by the Council. A summary of this report, together with the report of the auditors, appears in the JOURNAL for February 1932, pages 167–170, and both reports will be published in full in the next YEAR BOOK.

Respectfully submitted,

CHARLES W. HOLTON, *Treasurer.*

Secretary Kelly stated that under the heading of receipts of reports, other communications from the Association, the Council and the Sections—at the First General Session—an amendment was proposed which was presented at the 79th annual meeting: That Section a, of Article I, of Chapter 5 be amended so as to give the Plant Science Seminar, the Conference of Pharmaceutical Law Enforcement Officials and the Conference of Pharmaceutical Association Secretaries, representation in the House of Delegates—was officially adopted. The Secretary requested that as soon as possible these groups would give him the names of the persons who are delegated to represent these bodies.

The Secretary stated that he had three communications, one from the Kansas City Retail Druggists Association, one from the Maryland Association, one from the Virginia Association, which he read in part. He assumed that it would be in order to refer these communications to the Resolutions Committee. There being no objection, Chairman Roach so ordered.

Chairman S. L. Hilton read a report of the Committee on National Legislation which was received and after discussion referred to the Committee on Resolutions. It follows:

REPORT OF THE COMMITTEE ON NATIONAL LEGISLATION.

To the Chairman and Members of the House of Delegates:

As chairman of your Committee on National Legislation, I herewith submit the following report.

The first session of the Seventy-Second Congress convened as required by law the first Monday in December, the session was a very active one and many differences as to policies occurred; no very important or constructive legislation was passed other than tax legislation and this affects the drug industry to a considerable extent.

Senate Joint Resolution No. 50 passed both houses of Congress and was signed by the President, it is known as Public No. 80. The resolution gave the Commissioners of the District of Columbia authority to close Little Water Street, thereby removing practically the last obstacle to the construction of the American Institute of Pharmacy. A detailed report will be made by Dr. Dunning on the project as to details, etc.

The tax legislation passed by Congress became a law; it is known as the Revenue Bill, and affects the pharmacist materially; from present indications it will result in decreased profits and considerable trouble in keeping records. While it is known as a manufacturers' tax, the manufacturers in a large number of cases have passed it along in increased prices, while the retail pharmacists are unable to do likewise owing to competition. It seems that a general sales tax would have been more equitable for the reason that the public would have paid the tax and in each instance it would be small and no objection would have been raised.

Under the Tax Bill an attempt was made by the department to rule that all physicians' prescriptions that might be considered as toilet preparations were taxable under Section 3. Representative groups requested a hearing, which was granted. It was attended by the groups as well as a prominent Washington dermatologist and splendid arguments were made. Your chairman submitted a number of prescriptions as well as samples and maintained that they were not toilet preparations and could not be considered as such; that they were for the treatment of specific diseases and therefore medicines. The same argument was presented by the physician.

The Department, after due consideration, ruled that prescriptions for such preparations are not taxable. For instance, a physician writing a prescription for the skin, scalp diseases, of the face, neck or hands or for falling hair has written for a medicinal preparation and, therefore, such preparation is not taxable. If, however, he should say on his prescription it is a "Toilet Preparation," it is subject to the tax and the pharmacist must pay same to the Government.

The pharmacist must keep a record of all toilet preparations, coming within Section 603 of the Act, manufactured by the pharmacist or manufactured for the pharmacist from his private formula and pay the tax. On toilet preparations made by the manufacturer from the manufacturer's own formula, although it contains the dealer's name, the manufacturer pays the tax and not the pharmacist.

The Capper-Kelly Bill came up before the Senate Committee. Your representatives were heard and I feel safe in saying they made a very favorable impression on the Committee. The bill was reported to the Senate without recommendation, has gone to the calender and will be taken up when Congress convenes in December. We must continue our work, keeping Senators and Congressmen advised and posted on the advantages of this legislation. I would recommend that we again adopt a resolution favoring the passage of the Capper-Kelly Bill and that copies of the same be sent to all members of Congress.

Some proposed legislation to amend the Federal Pure Food and Drugs Act is before Congress. Nothing as yet has been considered; it bears watching and if taken up at the next session of Congress your representatives will give the same prompt attention.

The Commissioners of Uniform State Narcotic Laws have shown but little consideration for the pharmaceutical profession; however, last September, Secretary Kelly and President Frailey, of the National Drug Trade Conference, were allotted about 15 minutes, after considerable pressure was brought to bear, and the conference lasted 2 hours. The fifth draft of the proposed legislation will be considered by a sub-committee in September and I have been assured that representation will be given the drug trade. The meeting of the commissioners will be held in October and the final draft recommended to the states. I might add that some changes in the Harrison Narcotic Act may be recommended.

In connection with the administration of the Federal Pure Food and Drugs Act, I would like to mention that a number of physicians' prescriptions were presented and compounded by pharmacists in the District of Columbia. As you know, this Act applies to the District of Columbia, the territories and to prescriptions in interstate commerce. A number of pharmacists were cited to appear. One prescription calling for Tincture of Nux Vomica was 19 minims short. The pharmacist simply filled the bottle without measuring it. Another called for a certain elixir which was not in stock; the pharmacist made it in the bottle and the result was that some ingredients were in excess and others deficient. They were cited to appear before a Department officer and give reasons for the variations. All but a few were reprimanded and cautioned to use proper care. A few cases were further considered by the legal branch of the Department but no prosecutions have been started. The Food and Drug Administration after conferences with interested parties has established tolerances for ampuls, tablets of all kinds, pills, etc. Tolerances for prescriptions are as important; the Administration admitted this fact in a conference I had with them. I would, therefore, recommend that the House of Delegates approve such a step and request the incoming president of the AMERICAN PHARMACEUTICAL ASSOCIATION to appoint a committee of three to take up this question and coöperate with the Food and Drug Administration for the purpose of establishing reasonable tolerances on physicians' prescriptions.

On numerous occasions during the past year, Messrs. Dunning, Kelly, Philip, myself as well as others have appeared before numerous boards, commissions and officials of the Government Departments on matters pertaining to pharmacy.

I do not know of a single occasion that we were not favorably received and shown every attention and consideration and succeeded in obtaining favorable results.

Respectfully submitted,

S. L. HILTON, *Chairman.*

Samuel L. Hilton also read the report of the delegate to the National Drug Trade Conference which was received. It follows:

REPORT OF THE DELEGATES TO THE NATIONAL DRUG-TRADE CONFERENCE.

To the Chairman and Members of the House of Delegates:

Your delegates to the National Drug Trade Conference herewith respectfully submit the following report.

The Conference held its annual meeting at Washington, D. C., December 9, 1931. All organizations were represented by full delegations and the privileges of the floor were extended to about twenty others.

After the usual routine business, reading of the minutes, presentation of reports of the officers, the minutes of the annual meeting of the Executive Committee were read, received and taken up seriatim.

Conference on Simplification of Glass Containers.—Mr. Heuisler, for the committee reported progress. S. L. Hilton called attention to the variations occuring in graduated prescription bottles and moved that it was the sense of the Conference that we recommend to the glass bottle manufacturers that graduations on prescription bottles be discontinued—the motion was carried. I have to further report that I have conferred with the chairman of the Simplification Committee of the Glass Containers' Association and also with the Division of Simplification Practices of the Bureau of Standards on the above question. Also an effort was made to have the manufacturers of ointment jars make a jar of suitable size, with proper tolerances, that will hold correct amounts of ointments as prescribed by physicians, using as a basis Petrolatum; progress is being made.

Commitee on the Status of Pharmacy and the Drug Trade.—Prof. W. F. Rudd presented a report which elicited full discussion of the many valuable points he presented in regard to pharmacy—having for its very existence public health and public welfare, and the placing of pharmaceutical education on a higher plane, now equalling other professions.

Committee on Uniform State Narcotic Act.—The Committee report showed that careful attention had been given this question, but no satisfactory conclusions had been arrived at. Commissioner Anslinger deeply appreciated the opportunity to be present and address the Conference; he dwelt especially on the results achieved at the Geneva Conference and his talk was most enlightening and deeply appreciated. Mr. Tennyson also spoke and both were given a rising vote of thanks.

Pharmacy Corps in the Medical Department of the Army.—This proposed legislation, in which we are so deeply interested, will be reported in full by a special committee of which Dr. R. L. Swain is Chairman.

The Councilor to the Chamber of Commerce of the U. S. A. reported and appended a complete report from the Secretary of the Chamber of Commerce of the U. S. A.

Committee to Prepare a Table of Potent and Toxic Drugs.—Chairman Beal reported he and his associates had made a careful study of the question and found it very difficult to define a poison in such words as would serve the purpose in drafting and enforcing legislation. It was recommended that the draft be completed and submitted to the delegates of the respective organizations for study and criticism.

Assessment.—By vote, each member association was assessed 25 dollars for the expenses of the Conference, the first assessment since 1924.

Enforcement of the Food and Drugs Act as Applied to Drugs.—This was an important question, all proposed amendments to the Act were discussed. The most important was one that would abolish the variation clause; whereby, if a drug product differed from the standards of the U. S. P. and N. F. it would not be possible to state on the label the standard as at present. This would prohibit the sale of any drug product that does not conform to the standards of the U. S. P. and N. F.

The other proposition of importance discussed was a statement that appeared in the November issue of the *American Medical Association Bulletin*. It was stated that the drug standards of the United States are now established by a private corporation. The article endorsed the principle of establishing standards by an organized governmental agency, and expects that legislation to that end will be introduced in the present Congress. As yet the legislation has not assumed shape. It would be a step backward and should be vigorously opposed by every branch of pharmacy. It was positively decided to take such a stand, as no good purpose would be served by creating a governmental agency.

The Conference unanimously endorsed the prompt ratification on behalf of the United States of the Convention held at Geneva.

Pharmacy and the Century of Progress.—H. C. Christensen reported progress in the work and stated he expected the medical, pharmaceutical and dental displays would excel all previous undertakings.

The following officers were elected: *President*, Carson P. Frailey; *Vice-President*, Ambrose Hunsberger; *Secretary-Treasurer*, E. F. Kelly; *Executive Committee:* W. L. Crounse, Harry Noonan, A. G. DuMez, R. E. L. Williamson, A. C. Taylor and the officers of the Association.

Respectfully submitted,

S. L. Hilton, *Chairman*,
J. H. Beal,
E. F. Kelly.

The report of the Committee on Cosmetics was read by Chairman George D. Beal. After discussions it was moved by S. L. Hilton that the report be received and the Committee continued with such appropriation as might be found possible at this time. Later, however, he asked that the motion be held over and it was so ordered.

REPORT OF THE COMMITTEE ON COSMETICS.

To the House of Delegates of the American Pharmaceutical Association:

The Committee on Cosmetics has continued, during the past year, the observation of the current medical and chemical literature for evidence of the injurious effects of cosmetic agents. A comprehensive search has been out of the question, up to the present, because of the time and expense involved, therefore we have been obliged to limit ourselves to such current reports as have been available. We have also had the opportunity of reading some of the exposés of the so-called "cosmetic racket," which, because of their sensationalism, have not impressed us as being intelligent attempts to guide this industry along correct lines. In our opinion, it was never intended that this committee should make an economic survey of the cosmetic field, and we are confining our efforts to the obtaining of evidence of the harmfulness or harmlessness of various cosmetic agents.

There appear to be two possible dangers in the use of cosmetic agents, where such agents are not used as therapeutic measures for the relief of dermatologic conditions. One of these is the matter of unexpected sensitivity, or hyper-susceptibility, of the user. Thus we find reference to, and have had actual contact with, the occasional cases of dermatitis or other forms of inflammation arising from the use of what are commonly regarded as harmless chemical agents. Such cases of hyper-susceptibility being well known in the fields of medicine, nutrition and industrial chemistry, their occasional occurrence following the use of cosmetics should not be a matter of serious concern to this group. We do feel, however, that the pharmacist should be aware of such possibilities, in order that their occurrence may be explained without causing alarm, and intelligent substitutions advised in such a way as not to discredit the preparation which may be offending in this instance.

We should concern ourselves, though, with those agents that function by reason of systemic changes that they produce, especially where the local reactions made use of cosmetically are themselves among the symptoms of grave systemic effects. Thus in speaking of a certain metallic salt having depilatory properties, the *British Medical Journal* has recently said editorially: "That this compound can cause epilation when ingested into the system is well known; that it can so act locally is less certain; but there is no doubt of its high toxicity, and its employment has led to cases of serious and almost fatal poisoning."

Judgment as to the propriety of any cosmetic agents should not be formed until a thorough and most impartial examination of the evidence has been made. The members of this committee have considered the matter for three years, and have, individually, their opinions regarding agents around the use of which restrictions may properly be placed. These opinions are not, however, the result of an exhaustive survey of chemical, medical and pharmaceutical opinion. To draft restrictive legislation at this time could both work an injustice to innocent parties and defeat the purposes of regulation by allowing some of the most inimical preparations to escape.

It is the sense of this Committee, therefore, that its really productive activity must be postponed until a better financial period, when a modest sum may be available from some source to support the necessary bibliographic work of the group. The House of Delegates, therefore, must determine whether this or another group is to continue to collect such data as possible against that time, or whether the whole matter be left in abeyance for future consideration.

Respectfully submitted for the Committee,

GEORGE D. BEAL, *Chairman.*

Chairman Roach asked whether there were any other communications to be presented at this time.

H. E. Benfield presented a resolution from the Northern Ohio Branch, A. PH. A., that has to do with an appointment of a committee to solicit bequests from men of means who had made their successes through the retail drug stores. On motion duly seconded the resolution was referred to the Committee on Resolutions.

Chairman Hilton in referring to the report of the Committee on National Legislation, enlarged on the status of the Capper-Kelly Bill and urged that pharmacists become active and attempt to get the bill through the next session of Congress which is a short session.

In speaking relative to the same report, R. L. Swain referred to the fifth draft of the state narcotic act, prepared by the Commission on Uniform State Laws. He said that at the Conference of Pharmaceutical Law Enforcement Officials, to be held on Thursday morning, that question will be fully discussed. Thomas Marns, chairman of Committee on Law Enforcement, Pharmaceutical Society of Great Britain; A. L. Tennyson, legal adviser of the Federal Bureau of Narcotics; H. T. Nugent, the field supervisor; Harold V. Smith, Chief, Bureau Narcotic Drug Control, Pennsylvania, and Col. C. H. L. Sharman, Chief of Narcotic Division, Ottawa, will be present. As chairman of the Conference he invited all who could to attend that meeting. Chairman Hilton stated that he had several conferences which have a bearing on this work and he would endeavor to be present.

R. C. Wilson asked Chairman Hilton whether he recommended the approval of a general sales tax in preference to the manufacturers' tax.

Chairman Hilton replied that in his opinion it would be far better to have a general sales tax than the present tax. At the present time it is supposed to be a manufacturers' tax and

the manufacturers in most instances pass it along by increased prices, whereby the customer eventually pays the tax. He explained that it was like the sales tax on gasoline; every time a purchase is made the tax is included. He thought that Congress at the coming session will consider the question of a general sales tax and the matter should be given consideration.

The report of the Committee on Pharmacy Corps was read by Chairman R. L. Swain.

REPORT OF COMMITTEE ON PHARMACY CORPS.

The AMERICAN PHARMACEUTICAL ASSOCIATION has for many years been aware of the unsatisfactory pharmaceutical service in the United States Army, and for just as many years the ASSOCIATION has been endeavoring to bring about a reorganization from which a safer and more efficient pharmaceutical service would result. A Committee on the Status of Pharmacists in the Government Service was maintained for the larger part of this time, later to be followed by the present Committee on Pharmacy Corps in the United States Army. While it is to be admitted that much progress has been made in some phases of the matter; that information essential to an understanding of the subject has been made available, and that the Medical Department of the Army has become coöperative to a much greater extent than heretofore, the fact remains that the Association is far from the objective toward which it has labored. In view of the situation with which the Association is now confronted, it is thought wise to set out in this report a brief résumé of the more recent developments in this movement.

At the Portland, Maine, meeting of the ASSOCIATION, held in August 1928, a separate Pharmacy Corps was specifically endorsed. A committee, under the chairmanship of A. L. I. Winne, Virginia, was appointed. A bill to amend the National Defense Act by providing for a Pharmacy Corps in the Medical Department of the United States Army was subsequently drawn up, and was introduced into the Seventieth Congress by Congressman Clyde Kelly of Pennsylvania and Senator Royal S. Copeland of New York. The Committee, under Chairman Winne, did an enormous amount of work. The Pharmacy Corps Bill was endorsed by practically every pharmaceutical organization in this country, and it received the widespread approval of the pharmaceutical press.

A hearing was held February 20, 1929, before the Committee on Military Affairs of the House of Representatives. Several prominent members of this Association were present and spoke in behalf of the bill. The data submitted by the Committee consisted largely of prescriptions presented to the pharmacy at the Walter Reed Hospital. Many of these prescriptions were proved dangerous, and in some instances, destructive of human life. Many of them were written by physicians possessing only a slight knowledge of drugs, and less of the manner and dosage in which they should be used. By the most direct evidence, it was shown that dangerous conditions prevailed, and that adequate protection of the army personnel demanded a thorough reorganization of the pharmaceutical service available. The hearing was prior to the tragic deaths of two children at Fort Leavenworth, Kansas, which resulted from an error in dispensing a physician's prescription in the army hospital at that post by persons engaged in pharmaceutical work, but who had no qualifications for so responsible a function. While the hearing created much interest and an increased support for the bill, it came near the close of the session, and thus no action was possible at the time.

The Pharmacy Corps Bill was introduced in the Seventy-First Congress by Congressman Reece, a member of the Committee on Military Affairs of the House, and by Senator Copeland of New York. While the Pharmacy Corps Bill was pending, the Wainwright Bill, introduced by Congressman Wainwright of New York, was also before Congress. This measure was designed to bring about greater efficiency in the Medical Department of the Army, and was understood as having been introduced to meet the needs of the Department as recognized by the Surgeon General. The Wainwright Bill made no provision for improving the pharmaceutical service.

While the Reece-Copeland Bill was before Congress, the Committee of this Association, under the present chairman, made a determined effort to secure favorable action by Congress. A large amount of coöperation was carried on, and sentiment for the bill developed in different states. Influential congressional support was pledged. In due course, the whole plan of the Committee was put up to the Secretary of War. A great deal of correspondence was had with this office, some of it being written by his close personal and political friends. However, the

Secretary of War found himself compelled to oppose the establishment of a Pharmacy Corps, characterizing the movement as unsound and unnecessary from the military point of view.

Feeling that the attitude of the Secretary of War was simply a reflection of the attitude of the Medical Department, it was thought desirable to open negotiations with the office of Surgeon General Ireland. Before any action could be taken by the Committee, it became known that the Surgeon General would gladly discuss the matter, and the Surgeon General himself instituted the negotiations which followed. On September 19, 1930, and October 22, 1930, representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION conferred with Surgeon General Ireland and his advisers. The pharmaceutical situation in the Army was given thorough discussion. The Surgeon General stated that he was in full agreement with the Association in its efforts to bring about the necessary improvement, but that he differed in the means by which this could be best accomplished. He expressed himself as believing that pharmacy would develop to a greater extent, and be more valuable to the Medical Department, if it were a part of the Medical Administrative Corps. He opposed a separate Pharmacy Corps as it was set up in the Reece-Copeland Bill. His opposition was based upon the administrative difficulties which the bill presented and the technical errors, of a military character, which the bill contained.

As a result of these conferences, Surgeon General Ireland was asked by the representatives of this Association to set out in written form his views, and to submit a bill which would give effect to his plans for the development of a more efficient medical service in the Army, including the place which would be assigned to pharmacy. The Surgeon General agreed to do this, and on November 15, 1930, he submitted a report, covering eleven closely typewritten pages. This report is now in the files of the AMERICAN PHARMACEUTICAL ASSOCIATION, and constitutes perhaps one of the most remarkable papers in the possession of the Association. The Surgeon General handled the whole matter candidly and in straightforward manner. He submitted a complete draft of a bill, embodying the features contained in the original Wainwright Bill with much added material as constituting the plan of the Medical Department for a more efficient medical service. Section 7 of the Surgeon General's measure was a direct and clear recognition of the need for a modernization of the pharmaceutical service, and made provision for commissioning a definite number of pharmacists who should be graduates of recognized colleges of pharmacy.

In this report, the Surgeon General discussed in detail the advantages to be gained for pharmacy under the modified Wainwright Bill, and he discussed, with equal clarity, the defects of the Reece-Copeland Bill. There was no disposition on the part of the Surgeon General to sidestep the issues involved, but on the contrary, the whole report was marked by a candid and open attitude. The conclusions of the report are of special interest. The Surgeon General stated that, as soon as the modified Wainwright Bill was enacted, a pharmacy officer would be assigned to the Surgeon General's office, whose duty it would be to proceed to the organization of a Pharmacy Section of the Professional Service Division of the Medical Auxiliary Corps until there could be a revision of the Tables of Organization for the office of the Surgeon General under which a separate Pharmacy Division could be authorized.

In evidence of the friendship and good faith of Surgeon General Ireland, a representative of his Department, Colonel A. D. Tuttle, was in attendance at the Miami meeting of the ASSOCIATION in 1931. Colonel Tuttle spoke twice on this matter, and, I feel, presented in a fair and carefully considered manner the views and opinions expressed by Surgeon General Ireland.

Surgeon General Ireland was retired about June 1931, to be succeeded by Surgeon General Robert U. Patterson. This Committee, following out the resolution adopted at Miami, met in conference with Surgeon General Patterson with the view of obtaining prompt action upon the proposals presented and agreed to by his predecessor. From the very beginning difficulties began to present themselves. Surgeon General Patterson was new to much of the work, and had little knowledge of the work which had been done to bring about an improvement in the pharmaceutical service available to the Army. The advisers to Surgeon General Ireland had been supplanted by others who were, necessarily, not informed as to the real facts in the case.

Surgeon General Patterson was apparently friendly to our aims, and seemed willing to coöperate. Right at the outset, however, he expressed opposition to a separate Pharmacy Corps, and advanced the same arguments which had been relied upon before. He early committed himself to the establishment of a Medical Auxiliary Corps, in which pharmacists and other professional and technical groups would find a place. The Surgeon General admitted that he needed

time to study the situation, and at a conference held late in 1931 he promised to give as much time as the matter required, and to write to the Committee as promptly as possible. A letter was received from him on February 15, 1932. This letter was written after it had become apparent that the national government was facing a financial crisis of great seriousness. Surgeon General Patterson stated that he had placed his plans before the War Department, setting out the needs of the Medical Department, including provisions for adequate pharmaceutical service. Due to the demand for strict economy in the Army as well as in other branches of the Government, the War Department disapproved the plans as submitted. The Surgeon General expressed himself as follows:

> "Loyalty to the War Department and recognition of the present situation in our country make it highly improper as well as inadvisable to attempt to obtain action on a bill which would affect an increase in the Medical Department. . . . While it is highly desirable that we have personnel in the Medical Department of the Army who have been trained in pharmacy in accordance with the highest civilian standards, the situation is not so urgent that it cannot rest until better times justify further steps, with the backing of the War Department. . . . For many reasons, the best course to follow for those who, not being in the Army themselves are nevertheless interested in placing pharmacists in the Army, is to wait until a general increase for the Medical Department is proposed to Congress by the War Department at a favorable time in the future. Among other changes, my office has in mind as necessary to increase the general efficiency of the Medical Department, is provision for an adequate pharmaceutical service. This has already been proposed by us, and will be incorporated in any future proposals. . . . Let me assure you that we are both in agreement on the general proposition, but I cannot as an officer of the Army consent or have anything to do with any procedure which will embarrass the War Department or the administration of the Government in any way at this time."

The Committee recognized the peculiar position in which the Surgeon General found himself, and suggested that it go ahead and introduce the old Pharmacy Corps Bill, with the understanding that such a Corps might be later merged with the Medical Auxiliary Corps, when this body was created, should it still be considered desirable. It was pointed out that this would relieve the Surgeon General of any embarrassment, and at the same time keep our proposal before Congress. The Surgeon General said he could not approve this course, as he was opposed to "piecemeal" legislation. He is committed to the plan of giving pharmacy a separate division in the Auxiliary Corps, but is much opposed to setting up a Pharmacy Corps. Asked what he would do if the Pharmacy Corps Bill were actually introduced and referred to him, he stated that he would be compelled to oppose it as being contrary to sound military administration and as being out of harmony with the policy of retrenchment which the Government has insisted must be followed. While taking this position in a very definite manner, the Surgeon General emphasized that he was in accord with the aims of the AMERICAN PHARMACEUTICAL ASSOCIATION so far as improving pharmaceutical service in the Army was concerned, and that he must be considered simply as opposing any action at this time and as in complete disapproval of a separate Pharmacy Corps.

With the position of the Surgeon General clearly defined, the matter was discussed with some of our friends in Congress. Their advice was, had the economic crisis not developed, to go on with our plans and introduce our original bill. The view of the Surgeon General was considered important, but was not regarded as conclusive. However, in the face of the greatly reduced governmental income, it was thought that to re-introduce the bill would be misunderstood. As it appeared absolutely impossible to secure any favorable action, the mere presence of the bill might be regarded as a slap at the fiscal policy of the President. At any rate, the Committee did not re-introduce the measure in the special session of Congress called in March 1932. It was apparent that no action could be taken on it at this time.

During the year, following out the request of the Committee, a study of the present conditions in the Army, so far as Pharmacy is concerned, was made by Surgeon General Patterson. This study was undertaken for the purpose of making the fullest use of the pharmaceutical personnel now available.

As the Committee sees the situation, several things are clear: There is no possibility of an early consideration of the Surgeon General's proposed bill to improve the medical service of the Army, including the commissioning of pharmacists in the Medical Auxiliary Corps as proposed; the Surgeon General is opposed to a separate Pharmacy Corps; and he is also opposed to any independent action on our part to bring this about, and would view any such action as an attempt to force the hand of the War Department. With these views before the Association, three courses are open:

1. To accept a place for Pharmacy in the Medical Auxiliary Corps at such time when this body may be created.
2. To introduce the Pharmacy Corps Bill, rewritten as to meet the criticisms which have been made of it, and to undertake to secure favorable action by Congress in the face of the open opposition of the War Department.
3. Or, to continue the Committee with power to take such action as may be suggested by the circumstances which may come about.

ROBERT L. SWAIN, *Chairman.*

J. H. Beal stated that the report brought to mind very vividly the recollection of a visit of a Committee of the A. PH. A. of which he was a member, to the Surgeon General's office, thirteen or more years ago. After the arguments were presented the Surgeon General very bruskly informed the Committee that there was no occasion for the better education of the pharmacists in the U. S. Army. He made the statement that if a man could read ordinary English, two hours instruction would give him all the technical information necessary to perform military pharmaceutical service. Comparing the attitude of the Surgeon General at that time with that of the present Surgeon General, progress has been made.

R. C. Wilson moved that the Committee be commended for its splendid work and that the report be referred to the Committee on Resolutions. The motion was seconded by E. G. Eberle and carried by vote.

Chairman Roach stated that no such motion had been made with any of the other committee reports and on motion by R. C. Wilson a blanket motion to that effect was made, seconded and carried.

Secretary Kelly stated that in accordance with Section 5 of Chapter III of the By-Laws of the ASSOCIATION, the Council on August 22nd had selected Charles F. Heebner of Toronto for *Honorary President*, E. F. Kelly of Baltimore as *Secretary*, and C. W. Holton, of Essex Fells, N. J., for *Treasurer*. These names are now submitted to the House of Delegates.

It was moved by G. L. Curry and seconded by Charles J. Clayton that the nominees be elected by standing vote.—Carried. Chairman Roach declared the officers elected accordingly.

The report of the Committee on Nominations was presented as follows:

We, the undersigned members of your Nominating Committee, respectfully submit the following recommendations:

For President, Ambrose Hunsberger, Pennsylvania; Thomas Roach, Oklahoma; Robert L. Swain, Maryland.

For First Vice-President, E. N. Gathercoal, Illinois; C. Leonard O'Connell, Pennsylvania; Robert P. Fischelis, New Jersey.

For Second Vice-President, John C. Krantz, Jr., Maryland; Walter F. Meads, Iowa; W. H. Glover, Massachusetts.

For Members of the Council: W. B. Day, H. V. Arny, T. J. Bradley, W. D. Adams, C. B. Jordan, H. C. Christensen, A. R. Bliss ,Jr., Gordon Curry, L. L. Walton.

Signed: HUGO H. SCHAEFER, W. M. HANKINS, R. B. ROTHROCK, HENRY F. HEIN, T. J. BRADLEY, H. A. LANGENHAN, F. W. HAYMAKER, ROWLAND JONES, GEORGE JUDISCH, *Chairman.*

It was requested that if there were other nominations they could be made from the floor. There being none, the persons named were nominated for the ensuing year.

Chairman George Judisch presented nominations for the officers of the House of Delegates as follows:

To the House of Delegates, American Pharmaceutical Association:

We, the undersigned members of your Nominating Committee, respectfully submit the following nominations:

For Chairman of the House of Delegates, J. W. Slocum, Iowa; *For Vice-Chairman,* P. H. Costello, North Dakota.

Signed by the Committee on Nominations as foregoing.

There being no nominations from the floor, Charles J. Clayton moved that the report be received and J. W. Slocum of Iowa was elected Chairman of the House of Delegates and P. H. Costello of North Dakota for Vice-Chairman.

The report of the Committee on Resolutions was called for but the Committee was not ready to report.

The report of the Committee on Place of Meeting was called for. Chairman Bradley made a brief verbal report. He stated that the ASSOCIATION met in Baltimore in 1930, in Florida in 1931 and under the plan according to which the Committee is working the far west would be named for 1933, but the Chicago Exposition in 1933 affects the plan. A number of places were considered and the Committee now presented Madison, Wis., as the meeting place for 1933. He stated that there were adequate accommodations at the State University and the hotels, and the Chicago Exposition can be visited either going or coming.

William Gray stated that Chicago has not made a bid for the convention for the next year but the Chicago Branch, A. PH. A., is desirous of having the meeting held in Chicago.

On motion of F. H. Freericks and seconded by Charles J. Clayton and a vote, Madison, Wis., was selected for the 1933 meeting.

The report of the Committee on Study of Pharmacy was called for.

REPORT OF THE COMMITTEE ON THE STUDY OF PHARMACY OF THE AMERICAN COUNCIL ON EDUCATION.

To the House of Delegates, American Pharmaceutical Association:

The efforts of this committee to obtain the funds necessary to match the appropriations made by the National Association of Boards of Pharmacy, The American Association of Colleges of Pharmacy and The AMERICAN PHARMACEUTICAL ASSOCIATION to finance the proposed Study of Pharmacy, under the auspices of the American Council on Education, have been unsuccessful. The economic conditions existing at the present time forbid further effort, upon the part of this committee, to raise these funds until conditions become more nearly normal. However, the committee has been active in carrying forward other duties.

At the meeting of the committee held in Miami, Florida, last year delay in obtaining financial help was foreseen and the committee was requested by its constituent bodies to consider and report on a proposed plan for an organization that could be useful in setting up standards for schools of pharmacy, and to approve such schools as meet and maintain these standards. A sub-committee was appointed for this purpose and, at a meeting of the Committee on the Study of Pharmacy, held in Toronto, August 21st, submitted its report which had previously been approved by the Executive Committees of the N. A. B. P., the A. A. C. P. and the Council of the A. PH. A. This report was accepted and approved and is herewith submitted for adoption by the AMERICAN PHARMACEUTICAL ASSOCIATION.

L. L. WALTON, *Chairman.*

Secretary Kelly stated that the representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION on this Committee are H. A. B. Dunning, W. W. Horn and E. F. Kelly. The Committee was organized with three representatives from the American Association of Colleges of Pharmacy, three from the National Association of Boards of Pharmacy and three from the AMERICAN PHARMACEUTICAL ASSOCIATION. The purpose was to secure funds for the comprehensive study of pharmacy. This has been impossible, largely on account of present conditions, and the Committee has therefore favored the organization of the American Council on Pharmaceutical Education as outlined in the report of the Council. (See June, July and September issues of the JOURNAL, pages 603, 722 and 978.) On motion, duly seconded, it was so carried.

There being no further business the Second Session of the House of Delegates was adjourned.

THIRD SESSION.

The Third Session of the House of Delgates was called to order by Chairman Thomas Roach at 9:45 A.M. The roll call was dispensed with. Chairman Roach called for the report of the delegate from the Section on Historical Pharmacy. It follows:

REPORT OF THE SECTION ON HISTORICAL PHARMACY.

Two sessions were held of the Section on Historical Pharmacy, one on Wednesday afternoon (August 24th), and the other on Thursday morning (August 25th). Due to the illness of Dr. John Uri Lloyd, his son, the Chairman of our Section, Dr. John Thomas Lloyd, was absent. The Section sent regrets to Dr. Lloyd and extended wishes for a speedy recovery of his father. Dean Bradley presided as temporary or acting chairman at the First Session and Prof. F. E. Stroup acted in a similar capacity during the Second Session.

Thirty-five papers were presented. Many of these were very interesting and valuable contributions, and their publication will reveal the earnest efforts being made by workers in American pharmacy to make available worth-while historical data pertaining to pharmacy and closely allied subjects.

Reports were rendered by the Historian and Secretary and the following recommendations were adopted to be submitted to the House of Delegates for consideration and action:

1. That the A. PH. A. suggest to all Colleges of Pharmacy in the United States to include in their curriculum a series of lectures on the History of Pharmacy and even Science; and

2. That a survey of all the Colleges of Pharmacy be made by the Historical Section to find out what, if anything, is being done along these lines.

3. That it is the consensus of opinion of the Section that, if possible, arrangements should be made to publish photographs (in original color) of drug jars as presented in a most interesting paper by Professor and Mrs. Charles H. LaWall. These original colored photographs may be inserts.

The Committee on Nominations was composed of John E. Kramer, H. M. Burlage and E. N. Gathercoal. The Chairman submitted the following names who were duly nominated and unanimously elected:

Chairman, Louis Gershenfeld; *Secretary*, C. O. Lee; *Historian*, E. G. Eberle; *Delegate to the House of Delegates*, L. E. Warren.

(Signed) L. E. WARREN, *Delegate*.

The report was, on motion, received and referred to the Council.

In regular order, the reports of the following committees were received: Membership, Local Branches, William Procter, Jr. Memorial, Patents and Trade Marks, Physiological Testing, Pharmacy Week and Transportation. These were duly received and will be printed in the minutes or in a succeeding issue of the JOURNAL, under "Committee Reports."

The report of the Committee on Coöperative Publicity was presented by Chairman Robert P. Fischelis. He afterward stated that he found it necessary to discontinue the work he had done for several years as *Director* of the Drug Trade Bureau of Public Information with which his committee coöperated. On motion, duly seconded, the report was received and a vote of thanks and appreciation for his valuable work was extended to Dr. Fischelis.

The report of the Committee on Horticultural Nomenclature was presented and referred to the Council as it included an expenditure.

An address was read by H. H. Gregg, Jr., on "Inter-Professional Relations of Physicians and Pharmacists as Conducted in Minnesota." After discussion the address was received and the speaker thanked. The address will be published in the November issue of the JOURNAL together with an abstract of the discussion thereon.

Secretary Kelly supplemented his report as Chairman of the Membership Committee. He had a list showing the classification of the members who have come into the ASSOCIATION during the last year. The classification is as follows: 153 retailers, 4 wholesalers, 8 manufacturers, 25 pharmacists, 6 research workers, 2 association officials, 13 pharmaceutical chemists, 3 publishers, 26 teachers, 1 pharmacist in Government Service, 1 pharmaceutical editor, 1 Food and

Drug official and 103 associate members. The associate members are members of the Student Branches. He was appreciative of the coöperation of the pharmaceutical publications.

Secretary Kelly thanked the members of the Committee and the schools that have established student branches and in that way have brought the young men into the membership of the Association. He stated that the work of increasing the membership, due to conditions, was not as satisfactory as he would like it to be. He was of the opinion that if members endeavored to give more publicity to the A. PH. A. the membership might be quite largely increased. The report was received.

The report of the Committee on Pharmaceutical Syllabus was called for. Secretary Kelly stated that Chairman Beard of the Syllabus Committee had been taken ill and it was necessary for him to return home. Reports on the Syllabus had been made in the Sections and he asked that the report by Chairman Beard be received. On motion duly seconded it was so ordered.

Dr. James. C. Munch entered the room and Chairman Roach called on him for the report on Physiological Testing. The report is to be presented in writing and will be published with other reports, the printing of which has been deferred to a succeeding number of the JOURNAL. Chairman Munch referred to the work on Tincture of Digitalis and the methods employed in preparing the standard. He concluded by stating that the Committee was also engaged in preparing brief sketches of "Who's Who in Bio-Assays" to be published with photographs. Important discussions ensued in the presentation of the Digitalis report, which it is hoped to include with the printed report.

The report of the Committee on Pharmacy Week was called for. It was read, discussed and accepted; it follows:

REPORT OF NATIONAL PHARMACY WEEK EXECUTIVE COMMITTEE.

The dates October 9–15, 1932, will mark the eighth annual observance of Pharmacy Week, a movement as started and developed by the late Robert J. Ruth, and which has attained not only national recognition but international recognition as well. The seventh annual observance was ably handled by E. L. Newcomb who was appointed *Temporary Chairman* at the Miami meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1931.

In view of the fact that the activities of the 1931 observance have been previously reported upon by E. L. Newcomb, this report will not embrace an account of the 1931 Pharmacy Week Observance.

There are a number of problems confronting the present committee in connection with the present and future development of this worth-while movement, which are receiving careful attention so that its continued success will be assured.

It is quite apparent that the purpose of Pharmacy Week is more than a one-week endeavor. It could live but a short time only if it was but a one-week endeavor. The present Chairman has in the past discussed the scope and purpose of Pharmacy Week with the late Robert J. Ruth and it was the latter's intention that Pharmacy Week should primarily serve as a stimulus to the pharmacists of this country toward a greater American Pharmacy. Dr. Ruth has also expressed the thought that the pharmacist should not stop at one professional window display per year but should feature 12 such displays each year. In both of these thoughts the present committee concurs to the fullest extent.

The Committee respectfully urges all members of the pharmaceutical profession to take an active part. The pharmaceutical press has been most kind in printing in full the bulletins as sent out by the Committee. It must be remembered, however, that all such bulletins can merely serve as suggestions, together with rules of the window display contest, etc. It is up to the pharmacist to actually conduct the activities within the scope of this movement. The professional window display affords not only a pleasant task for the pharmacist to perform but likewise is one of the most potent of all factors in bringing the message of Pharmacy to the public. A professional window display, well executed from standpoint of selection of subject, neatness, balance, color harmony, accuracy, etc., nets not only the pharmacist in question a turn in excess of time, money and effort put forth but is a powerful factor for the good of Pharmacy in general. It is hoped that many additional thousands of pharmacists will participate this year over the number that participated during the 1931 Pharmacy Week observance.

Colleges of Pharmacy can likewise be of great assistance by a word of encouragement to the 10,000 or more students enrolled in our various colleges of pharmacy. A word of encouragement to the students is in the majority of cases a word of encouragement brought to the proprietor through the agency of the student in question. State pharmaceutical associations can likewise be of inestimable value. A message encouraging the pharmacists to participate in Pharmacy Week activities mailed along with other communications from the office of the Secretary will assist in a material manner. Manufacturers and wholesalers can likewise be of great assistance. A word or two about Pharmacy Week when in conversation with customers by the wholesaler will add to the sum total of accomplishment.

The message of Pharmacy Week can likewise be carried to the retail pharmacists from the convention platform of local, state and national gatherings. The Committee trusts that all concerned will participate in passing the good word along throughout the entire country. The Committee has under consideration various ways in which to bring about a greater interest on the part of the one who should be interested, namely, the pharmacist.

Another factor to be borne in mind is—it is quite essential that the material makeup of the store together with the daily procedure be in keeping with the spirit of the professional window display and that of Pharmacy Week as a whole. Considerable harm may be the result if these facts are not borne in mind by the pharmacist. No greater monument could be erected to the late Robert J. Ruth than that of a better American Pharmacy as brought about through the agency of that which he lived and died for—Pharmacy Week.

The second major problem is that of having the message of Pharmacy brought to the public. Certainly there is a wealth of material at our command, for no other profession on earth possesses as rich a heritage as does Pharmacy. It is a heritage filled to overflowing with human-interest appeal material. It is a heritage in which we note many famous discoveries by famous pharmacists. Both Medicine and Chemistry have been quite active in setting forth to the public the accomplishments of those within their ranks. Pharmacy should do likewise. Two of the greatest of all gifts tendered mankind—namely, Morphine and Quinine were made possible through the efforts of pharmacists. As pharmacists, we should be duly proud of these famous colleagues.

The radio programs will be continued as in the past. It is hoped that many will respond this year to assist in bringing the message of Pharmacy to the public by appearing before various groups throughout the entire country. Printed inserts dealing with one or more of these interesting stories as sent into the home by mail or wrapped with packages will be of material help. No doubt we will again be favored with a Presidential Proclamation on Pharmacy Week. In addition to this proclamation there will be forthcoming a number of State Executive proclamations this year. One such proclamation has already been received from the Governor of Porto Rico.

In conclusion the Committee wishes again to emphasize the fact that Pharmacy Week is a week for pharmacists—that its success depends in a large measure on the efforts as put forth by pharmacists and that it is an undertaking that should receive the whole-hearted support of every pharmacist.

American Pharmaceutical Association.	*National Association of Retail Druggists.*
ANTON HOGSTAD, JR., *Chairman*, New York City	JOS. W. NOBLE, *Chairman*, Philadelphia, Pa.
FREDERICK B. KILMER, New Brunswick, N. J.	S. L. HILTON, Washington, D. C.
WILLIAM B. DAY, Chicago, Ill.	H. PETERSON, Minneapolis, Minn.
W. BRUCE PHILIP, Washington, D. C.	L. P. LARSEN, Chicago, Ill.
FRANK A. WALTERS, San Antonio, Texas	F. E. MORTENSON, Los Angeles, Cal.

ANTON HOGSTAD, JR., *National Chairman.*

In discussing the report, D. F. Jones complimented the work of the Committee and he was thoroughly in sympathy with the work, but he favored greater individuality and he preferred to use his own messages. He thought the maps were too large, and explained several windows he had used effectively; for example, a window wherein chemical and other technical apparatus were displayed. In one display he had microscopes which proved not only attractive but profitable. He gave attention to association meetings in making displays and stated that he not only changed windows frequently but also the interior of the store.

Chairman Hogstad spoke of the pharmacy of Mr. Jones as being distinctive, but stressed the necessity and importance of preparing displays for the majority and the many ways in which features may be added to the maps. The maps have attracted the attention of schools and colleges and were being largely used in an educational way.

H. V. Arny complimented Mr. Jones but he considered the maps which had been prepared under the direction of Dr. E. L. Newcomb as the greatest gifts to pharmacy. He had many inquiries for maps from teachers who had seen his name on one of the maps. He also referred to the use Dr. J. Leon Lascoff had made of the maps.

C. H. Gauger referred to the work at the Buffalo College of Pharmacy. Lectures on the subject acquaint students and the public with pharmacy.

H. A. Langenhan said at Seattle the Chemical Map had been used to display minerals. The interest of high schools throughout the state had been stimulated in pharmacy by the maps and displays.

Chairman Hogstad referred to the fine interest in Pittsburgh which had been commented on not only in pharmaceutical publications but in the daily press. Thousands of people had been attracted to the displays and were attentive listeners at the lectures.

I. A. Becker said the Pharmacy Week material was used by training schools for nurses.

Chairman Bradley made a brief report and stated that the Committee on Transportation published its annual notice in the JOURNAL (see page 313, April 1932). The report was accepted.

H. H. Gregg referred to a picture in *Photoplay Magazine*, which was supposed to show a pharmacist handing out "fake" merchandise.

Secretary Kelly stated that the publishers had been communicated with, and he felt assured correction would be made.

C. H. Gauger thought more attention should be given to therapeutic information in U. S. P. and N. F. literature by associations and others.

C. V. Netz said individual pharmacists should take a greater interest in this publicity.

J. Leon Lascoff and President Brown spoke of the publicity carried on in New York and in Pennsylvania. Mr. Brown said Pennsylvania had displays at the State Medical Association meeting and the work was very favorably received. These efforts will be continued.

Adley Nichols referred to display, under the direction of Dr. Miller, at the Virginia meeting, which eminently was successful.

The report of the Committee on Resolutions was presented by C. Leonard O'Connell for Chairman A. L. I. Winne. The resolutions were separately read, discussed and approved as published in the September JOURNAL, pages 903–907.

On motion, duly seconded, and a vote, the Committee was thanked for their work in preparing the resolutions.

S. L. Hilton referred to the report of the Committee on Cosmetics, asking that the Committee be continued and that the Chairman confer with the Chairman of the Committee on Finance.—Carried.

A motion to adjourn was carried.

THE FINAL SESSION.

The Fourth Session of the House of Delegates was convened by Chairman Thomas Roach at 7:30 P.M., August 26th. Roll call was on motion and vote dispensed with. Secretary Kelly read the minutes of the Third Session of the House of Delegates (see minutes of Third Session). They were approved.

The report of the Committee on International Pharmaceutical Nomenclature was referred for publication, the chairman not being present; the same action was taken on the report of the Committee on Prerequisite Legislation.

I. A. Becker reported for the Section on Practical Pharmacy and Dispensing.

REPORT OF SECTION ON PRACTICAL PHARMACY AND DISPENSING.

To the House of Delegates of the American Pharmaceutical Association:

The delegate from the Section of Practical Pharmacy and Dispensing, to this body submits the following report:

This Section held two sessions, besides the joint session with the Scientific Section. The

sessions were well attended and a number of the papers elicited a *lively* discussion. Sixteen (16) papers were presented at the first session and twelve (12) papers at the second session; a total of 28 papers.

An exhibit of dental preparations by Rutgers College of Pharmacy, attracted considerable interest both before and after the second session.

The newly elected officers of the Section are: *Chairman*, W. Paul Briggs, Washington, D. C.; *Vice-Chairman*, M. J. Andrews, Baltimore, Md.; *Secretary*, R. E. Terry, Chicago, Ill.; *Delegate to House of Delegates*, I. A. Becker, Chicago, Ill.

Respectfully Submitted,
I. A. BECKER.

REPORT OF THE SCIENTIFIC SECTION.

To the House of Delegates, of the American Pharmaceutical Association:

The Scientific Section held two afternoon sessions in addition to the joint evening session with the Section on Practical Pharmacy and Dispensing. 103 titles appeared on the printed program and 54 were actually presented either completely or in abstract form by the authors. Attendance and interest was well maintained throughout the sessions of the Section.

New officers elected for the coming year were as follows: *Chairman*, W. J. Husa, Gainesville, Fla.; *First Vice-Chairman*, F. E. Bibbins, Indianapolis, Ind.; *Second Vice-Chairman*, A. R. Bliss, Jr., Memphis, Tenn.; *Delegate to House of Delegates:* L. E. Warren, Washington, D. C.

Respectfully submitted,
L. W. ROWE, *Secretary.*

REPORT OF THE CONFERENCE OF PHARMACEUTICAL ASSOCIATION SECRETARIES.

Two sessions of the Conference of Pharmaceutical Association Secretaries were held as per schedule and various papers read and discussed. Members from twenty-one states were present: we were honored by the presence of Secretary H. N. Linstead of the British Pharmaceutical Society and Secretary Jacobs of the Ontario Pharmaceutical Association. The following officers were elected for the ensuing year: *President*, Lester W. Hayman, W. Virginia.; *First Vice-President*, Gustav Bachman, Minnesota; *Second Vice-President*, R. C. Wilson, Georgia; *Secretary-Treasurer*, Carl G. A. Harring, Massachusetts; *Executive Committee:* Messrs. Lehman, New York; Garvin, Connecticut; Slocum, Iowa; Gill, Rhode Island; *Delegate to the House of Delegates*, Charles J. Clayton, Colorado.

Respectfully submitted,
CARL G. A. HARRING, *Secretary.*

REPORT OF THE CONFERENCE OF LAW ENFORCEMENT OFFICIALS.

Chairman R. L. Swain made the report for the Conference of Law Enforcement Officials. He said that the Conference had the largest program and attendance in its history and most sincere interest.

The Conference was addressed by Mr. Thomas Marns, chairman of the Committee on Law Enforcement of the Pharmaceutical Society of Great Britain. It was also addressed by Secretary H. N. Linstead of that Society; Colonel C. H. L. Sharman, chief of the Narcotic Division of the Dominion; A. L. Tennyson, Legal Adviser to the Commissioner of Narcotics in Washington; H. T. Nugent, Field Supervisor, Federal Bureau of Narcotics; H. V. Smith, Commissioner of Narcotic Drugs of Pennsylvania.

Special attention was given to a uniform state narcotic act, its need and also its ability to supplement and further strengthen the Federal Narcotic Act. Other papers included "The Enforcement of the Illinois Pharmacy Act;" "Recent Pharmaceutical Legislation in New Jersey;" and a detailed consideration of the recent case in California, in which the Pharmacy Act of that state was upheld in a suit lasting more than three weeks, and which was very bitterly contested, both from a professional and technical point of view.

Another interesting topic was "Relation of U. S. P. and N. F. Revision to Law Enforcement." Special reference was given to standard synonyms, and to the inclusion of assay processes

where they are not now included, and other matters of general interest to the Law Enforcement Group.

The reports of the Plant Science Seminar, the Section on Education and Legislation and Section on Commercial Interests were received by title and referred for publication. Chairman C. Leonard O'Connell presented a resolution brought to the Committee on Resolutions. After discussion the resolution was adopted as presented in Resolution No. 26—see page 907, September JOURNAL.

Secretary C. W. Ballard entered the room and was called on for a report of the Section on Education and Legislation. He reported a successful meeting and the election of the following officers: *Chairman*, A. L. Rivard; *Vice-Chairman*, P. H. Costello; *Secretary*, C. W. Ballard; *Delegate to the House of Delegates*, R. H. Raabe. C. Leonard O'Connell reported for the Section on Commercial Interests: *Chairman*, Leon Monell, *Vice-Chairman*, John A. J. Funk; *Secretary*, Henry A. Brown; *Delegate to the House of Delegates*, Rowland Jones.

The following officers were installed by Chairman Roach—the officers being presented by Henry A. Hein. Chairman J. W. Slocum being presented he was duly installed and expressed his appreciation of the honor and stated he would render the best possible service. He hoped to see a large attendance in Madison, and spoke briefly of the host city for next year, in a very favorable way.

The Vice-Chairman, P. H. Costello, was next installed and also expressed his appreciation and promised the best of service he could render.

Secretary E. F. Kelly said he would be happy to assist the new officers in every way to the best of his ability.

A rising vote of thanks was extended to the retiring Chairman, Thomas Roach.

On motion, duly seconded the Final Session of the *House of Delegates* was adjourned.

ACKNOWLEDGMENTS.

Honorary President Charles F. Heebner writes:

"I must thank you for the official advisement of my election as *Honorary President* of the AMERICAN PHARMACEUTICAL ASSOCIATION for 1932–1933. This is a great honor and has come to me as a bolt out of the blue. Naturally I am filled with a considerable amount of pride that I should be selected from the many to emphasize the cordial relations existing between the pharmacists of Canada and the United States and to express appreciation of the interest I have taken in the work of the ASSOCIATION during a more than forty years' membership."

President F. Gladstone Hines and **Chairman Herbert Skinner** conveyed their thanks for *honorary membership* in the AMERICAN PHARMACEUTICAL ASSOCIATION at the meeting in Toronto, and have since acknowledged appreciation of the honor by letter. They stated, that the contacts made remain a happy memory and mark the friendly relationship of the Associations.

Dr. Hans Heger expresses his appreciation of election to *honorary membership* and that this recognition will strengthen the ties of the pharmacists of Austria and the United States. He offers his services in the promotion of pharmaceutical endeavor.

Editor George Urdang has written a letter of thanks and, in an editorial of the *Apotheker Zeitung*, of October 5th, made acknowledgment of the distinction which he accepts as an expression of continued good-will of American pharmacists. He said that the fraternal relations of German and American pharmacists will be strengthened.

A. PH. A. FELLOWSHIP AWARD.

President John J. Tigert, of the University of Florida, has conveyed to the ASSOCIATION through Secretary E. F. Kelly the thanks of the University for the Fellowship Award of $1000.00 for research study in drug extractions, under the supervision of Dr. William J. Husa. The acceptance is quoted in the following paragraph:

"At a meeting on September 19th the Board of Control of the University of Florida formally accepted this fellowship and asked me to convey to you their appreciation for the honor, as well as the opportunity, which has been accorded both to the University and to Dr. Husa. I hope that you will convey this to the proper officials of your ASSOCIATION."

LIST OF REGISTRANTS, CONTINUED, ANNUAL MEETING, A. PH. A., TORONTO, CANADA.

(Canadian-American Pharmaceutical Convention.)

At the time of preparing the list of registrants as printed in the September number, page 982, the registration cards had not been received and the list herewith is a continuation of those in attendance at the 80th Annual Meeting, A. PH. A. Also there have been some corrections which were found necessary in order to have the list of registrants complete and correct and to that end would appreciate the coöperation of those in attendance. Please address JOURNAL A. PH. A., 10 W. Chase St., Baltimore, Md.

ALLAN, C. F., MR. AND MRS., AND DAUGHTER, Wyandote, Mich.
ATHERTON, NATALIE, New York City.
AVERY, C. H., Pasadena, Calif.

BACON, ELLIS W., Philadelphia, Pa.
BARTLETT, K. A., MR. AND MRS., Newark, N. J.
BATES, J. B., MRS., Cleveland, Ohio.
BAUER, JOHN C., MR. AND MRS., Baltimore, Md.
BEARD, J. G., Chapel Hill, N. Car.
BEAUCHAMP, G. A., Rahway, N. J.
BECKER, HAROLD E., Brooklyn, N. Y.
BECKER, J. A., Chicago, Ill.
BEIRNE, HUGH P., New Haven, Conn.
BIBBINS, MISS RUTH, Indianapolis, Ind.
BIENFANG, RALPH, Norman, Okla.
BLACKALL, GEORGE, Bristol, Conn.
BLACKSTONE, DAVID, MR. AND MRS., Boston, Mass.
BOWEN, L. H., MRS., Chicago, Ill.
BOWER, S. W., Buffalo, N. Y.
BRIGGS, W. PAUL, MR. AND MRS., Washington, D. C.
BROWN, C. F., MR. AND MRS., Fall River, Mass.
BROWN, MISS M., Chicago, Ill.
BRUNELLE, H. J., MR. AND MRS., Woonsocket, R. I.
BUNTING, G. A., MR. AND MRS., AND DAUGHTER, Baltimore, Md.
BUNTING, GEORGE L., Baltimore, Md.

CAIN, RUSSELL A., MR. AND MRS., Seattle, Wash.
CHRISTENSEN, B. V., MR. AND MRS., Gainesville, Fla.
COWART, R. E., MR. AND MRS., Dallas, Texas.

DACUS, R. M., Greenville, S. Car.
DANGELMAYER, THEODORE, JR., MR. AND MRS., Waltham, Mass.
DARGAVEL, JOHN W., Minneapolis, Minn.
DAVY, MISS CHRISTINE, Cleveland, O.
DAVY, E. D., MR. AND MRS., Cleveland, O.
DEICHMILLER, MARY, Rochester, N. Y.
DUNCAN, GEORGE D., MR. AND MRS., Franklin, Ky.
DUNNING, BROWN, Baltimore, Md.
DUNNING, CHARLES, Baltimore, Md.
DUNNING, KATHERINE, Baltimore, Md.

EDWARDS, J. E., MR. AND MRS., Illinois.
ENGBERG, A. E., MR. AND MRS., Charleston, S. Car.
EVANS, CHARLES H., Warrenton, Ga.

FULLER, HORACE C., MR. AND MRS., New Haven, Conn.

GARVIN, MISS ALICE ESTHER, New Haven, Conn.
GAUGER, C. H., Buffalo, N. Y.
GERNDT, ANDREW H., New York City.
GIBSON, CHARLES F., Centradalla, R. I.
GRIFFITH, IVOR, Elkins Park, Pa.

HANKINS, W. M., Daytona Beach, Fla.
HEIN, HENRY F., MR. AND MRS., AND SON, San Antonio, Texas.
HELMS, SAMUEL T., Baltimore, Md.
HENRY, M. N., MR. AND MRS., Lowell, Mich.
HEUISLER, PHILIP, MR. AND MRS., Baltimore, Md.
HEWITT, HAROLD G., Williamsville, N. Y.
HOGE, E. K., Wheeling, W. Va.
HUNSBERGER, AMBROSE, MR. AND MRS., Philadelphia, Pa.

JANSEN, V., Kinistino, Sask.
JEPSON, PAUL, MR. AND MRS., Newton, Iowa.
JONES, D. F., Watertown, S. Dak.
JONES, G. F., Montreal, Can.
JUDISCH, G. W., Ames, Iowa.

KAIRIS, ELEANOR, Baltimore, Md.
KEENE, B. M., Indianapolis, Ind.
KERMOTT, GEORGE T., Duluth, Minn.
KOTTE, N., Cincinnati, O.
KRAPNICK, MISS G., Boston, Mass.

LAKEY, ROLAND T., Detroit, Mich.
LEONARD, E. O., Pocatello, Idaho.
LEROU, H. M., MR. AND MRS., Norwich, Conn.
LITTLE, ERNEST, MR. AND MRS., Highland Park, N. J.
LYMAN, R. A., Lincoln, Neb.

MACLEOD, M. J., Watertown, Mass.
MANSON, HELEN, Hudson, Mass.
MERRELL, CHARLES G., MR. AND MRS., Cincinnati, O.
MICKELSEN, A. O., Portland, Ore.
MILLER, MAX, JR., MR. AND MRS., Boston, Mass.
MONTANARO, LOUIS, New Haven, Conn.
MORRISON, S. W., MR. AND MRS., Chicago, Ill.

NICHOLS, J. J., MR. AND MRS., New York City.

PARKER, H. W., MR. AND MRS., Jonesboro, Ark.
PATTERSON, W. D., MR. AND MRS., El Reno, Okla.
PENNER, VERNON, MR. AND MRS., New York City.
PIERCE, CHARLES S., MR. AND MRS., Springfield, Me.
PITTENGER, PAUL S., Philadelphia, Pa.

QUIMBY, M. W., MRS., Orono, Me.

REAGIN, O. W., Forney, Texas.
RILEY, ROY M., Wichita, Kans.
RIPPETOE, J. R., MR. AND MRS., AND DAUGHTER, New York City.
ROACH, MISS BERTE, Okmulgee, Okla.
ROACH, MISS MARY, Oklahoma City, Okla.
ROSIN, JOSEPH, Plainfield, N. J.
RUDY, H. R., Hagerstown, Md.

SCHALLER, MISS LORETTA, Oklahoma City, Okla.
SCHNELLBACH, W. D., Linden, N. J.
SCHWABE, E. L., Buffalo, N. Y.
SONDERN, C. W., MR. AND MRS., AND DAUGHTER, Madison, Wis.
SISSON, JOSEPH, MR., Boston, Mass.
SPEASE, EDWARD, MR. AND MRS., Cleveland, O.
STABLER, LAIRD J., Los Angeles, Calif.
STOUT, E. P., Detroit, Mich.
SWARINGEN, DEWITT C., MR. AND MRS., China Grove, N. Car.

TAYLOR, A. C., MR. AND MRS., Washington, D. C.

WAKEMAN, MISS I. M., Madison, Wis.
WAKEMAN, MISS NELLIE, Madison, Wis.
WALTER, FRANK A., MR. AND MRS., San Antonio, Texas.
WARREN, L. E., Washington, D. C.
WASHBURN, H. C., Boulder, Colo.
WHELPLEY, H. M., MRS., St. Louis, Mo.
WILLIAMS, MISS DOROTHY, Baltimore, Md.
WILSON, ROBERT C., MR. AND MRS., Athens, Ga.
WINNE, A. L. I., MR. AND MRS., AND SON, Richmond, Va.
WISE, JAMES W., MR. AND MRS., Dover, Del.

YOUNGKEN, H. W., Boston, Mass.

Please refer to first list of registrants, page 982.

EDITORIAL NOTES

Editor: E. G. Eberle, 10 West Chase Street, Baltimore, Md.

Members of the Council, A. Ph. A.: S. L. Hilton, *Chairman;* Charles H. LaWall, *Vice-Chairman;* E. F. Kelly, *Secretary;* H. V. Arny, A. G. DuMez, H. A. B. Dunning, William B. Day, C. E. Caspari, J. H. Beal, T. J. Bradley, Ambrose Hunsberger. *Ex-Officio Members:* W. Bruce Philip, *President;* Rowland Jones, G. H. Grommet, *Vice-Presidents;* C. W. Holton, *Treasurer;* E. G. Eberle, *Editor of the Journal;* A. G. DuMez, *Editor of the Year Book;* J. W. Slocum, *Chairman of the House of Delegates.*

Collaborators: The Members of the Council; E. Fullerton Cook, *Chairman,* U. S. P. Revision Committee; E. N. Gathercoal, *Chairman,* N. F. Revision Committee; Chairmen of the Sections, A. Ph. A.: W. J. Husa, W. J. Rivard, W. Paul Briggs, Leon Monell, Louis Gershenfeld, Charles H. Stocking, *President,* A. A. C. P.; Charles B. Jordan, *Chairman,* Executive Committee, A. A. C. P.; Clare F. Allen, *President,* N. A. B. P.; Henry C. Christensen, *Secretary,* N. A. B. P. Scientific Section—Board of Review on Papers: *Chairman,* L. W. Rowe, Detroit, Mich.; John C. Krantz, Jr., Baltimore, Md.; F. J. Bacon, Cleveland, Ohio.

OMISSIONS

On account of the reports of the General Sessions and House of Delegates it was necessary to omit several departments and abridge others in this issue of the Journal.

LET US ASSIST YOU IN SOLVING PRESCRIPTION PROBLEMS.

Dr. S. L. Hilton, former President of the American Pharmaceutical Association and Chairman of its Council, well and favorably known pharmacist of Washington, will answer problems that come up in prescription practice. We, therefore, invite those who have problems to send them to this office at 10 W. Chase St., Baltimore.

EPHEDRINE SOLUTIONS.

BY S. L. HILTON.

According to two authorities ephedrine oil spray decomposes on standing, in the presence of light and moisture. The manufacturers furnish these oil solutions in amber bottles and I have found no difficulty in keeping them when thus protected.

The aqueous solution requires a preservative and chlorobutinol, 5%, is used. Chlorobutinol is soluble in 125 parts of water. There should be no trouble in making a 5% solution in distilled water of chlorobutinol and then dissolving the ephedrine sulphate or hydrochloride in the solution, making the finished product contain 3% ephedrine sulphate or hydrochloride.

As to the oil solutions the plain and compound are usually made of one per cent strength using the alkaloid; one manufacturer flavors the plain solution with oil of rose. I have found the following formula for the compound solution satisfactory:

Ephedrine Alkaloid	1.00
Camphor	.20
Menthol	.20
Methyl Salicylate	.05
Oil Cinnamon	.05
Liq. Petrolatum, light q. s. ad	100.00 cc

Triturate the camphor and menthol to a liquid, add the methyl salicylate and oil of cinnamon, then the ephedrine alkaloid and liquid petrolatum, light, to make 100 cc. The solution may be heated to not over 40° C. to facilitate solution.

THE NATIONAL ASSOCIATION RETAIL DRUGGISTS.

The 34th annual meeting of the N. A. R. D. registered a large attendance at its Boston meeting, September 26th and 30th.

The officers elected for the ensuing year are as follows:

President, John A. Goode, Asheville, N. C.; *First Vice-President,* M. L. Powell, Denver, Colo.; *Second Vice-President,* Harvey A. Henry, Los Angeles, Calif.; *Third Vice-President,* George Secord, Chicago, Ill.; *Secretary,* Samuel C. Henry, 168 N. Michigan Ave., Chicago, Ill.; *Treasurer,* William Rheineck, Milwaukee, Wis. *Executive Committee: Chairman,* Ambrose Hunsberger, Philadelphia, Pa.;

Thomas Roach, Oklahoma City, Okla.; F. R. Peterson, Portland, Ore.; John W. Dargavel, Minneapolis, Minn.; Charles Ehlers, Cincinnati, O.; Fred Wright, Boston, Mass.

The addresses by President John W. Dargavel and Dr. J. H. Beal were well received. The former presented an interesting report of the activities during the year of his term of office; the address of the latter is to be reprinted for wide distribution.

The resolutions adopted covered events and activities in the drug field, including legislative matters. Quite a number of the resolutions related to drug store and drug trade activities dealing with secret rebates, discounts and allowances; channels of distribution, manufacturers' price lists, needless drug stores, "pine board" drug stores, unfair trade practices, insisting on fair consideration of independent stores, profit items, St. Louis Drug Store Survey and advertising.

The work of Counselor W. Bruce Philip and of Secretary Samuel C. Henry was given endorsement. Commendations were also given Dr. James M. Doran, Commissioner Anslinger, Congressman Kelly and Senator Capper. Endorsement was given to the Nye bills, Capper-Kelly Bill, consideration of narcotic legislation, without imposition of unnecessary and burdensome regulations, and favoring restriction of the sale of preparations containing narcotic drugs to registered pharmacists. Hearty endorsement was given to the establishment of a Pharmacy Corps in the U. S. Army.

Encouragement was given to methods of educating the public relative to the service of pharmacy, promoting U. S. P. and N. F. prescribing, Pharmacy Week was endorsed and the necessity emphasized of avoiding commercial use of the show globe, and coöperation among the various drug trade activities and associations was stressed.

The foregoing references are not complete and give only a general outline of the substance of the resolutions.

The meeting throughout showed an intense interest and a serious consideration of the problems of the retail druggist.

President Dargavel in his address discussed at length many of the problems which resulted in the adoption of many of the resolutions referred to. Favorable reference was made to the progress and benefits of the N. A. R. D. Washington office and the splendid work of Counselor W. Bruce Philip.

THE NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

The National Wholesale Druggists' Association, at its annual meeting at While Sulphur Springs, commended the work of the National Institute of Health, reëndorsed the Capper-Kelly Bill, urged an early restoration of the 2-cent first class postage rate.

The following officers were elected for the ensuing year:

President, Carl F. G. Meyer, St. Louis; *Vice-Presidents*, George Van Gorder, Cleveland; H. M. Hewitt, St. Joseph, Mo.; George C. Read, Spartanburg, S. C.; Earl C. Scott, Ft. Worth, Texas; George A. Kelly, Pittsburgh. *Members of the Board of Control*, P. A. Hayes, Greensboro, N. C.; George H. Kauffman, Columbus, O.; Leo A. Lanigan, Chicago, Ill.; George V. Doerr, Minneapolis, Minn.; E. L. Newcomb was reëlected *Secretary*. French Lick Springs, Ind., was selected for the 1933 meeting.

THE FEDERAL WHOLESALE DRUGGISTS' ASSOCIATION.

The Federal Wholesale Druggists' Association, at its annual meeting in Washington, reëlected O. J. Cloughly, of St. Louis, as *President;* W. Z. Krupp, of Philadelphia, *Vice-President;* G A. Raab, of Providence, *Treasurer;* and reëlected R. E. Lee Williamson of Baltimore, *Secretary*.

Among the resolutions adopted were endorsements of the administrations of Harry J. Anslinger and James M. Doran. Continued support was given to Pharmacy Week, endorsement of the show globe, coöperation with the St. Louis Drug Store Survey, the Nye bills, the Capper-Kelly Bill; discriminatory tax laws were opposed and also certain methods of drug-trade practice. Coöperation in legislative matters was endorsed.

Various national organizations had representation at the meeting, Secretary E. F. Kelly represented the AMERICAN PHARMACEUTICAL ASSOCIATION.

Legislative matters were discussed by General Counsel Eugene C. Brokmeyer.

REGIONAL MEETING, MARYLAND PHARMACEUTICAL ASSOCIATION.

The Fall regional meeting of the Maryland Pharmaceutical Association was held at Olney Inn, Montgomery Co., October 18th, and was well attended.

PERSONAL AND NEWS ITEMS.

W. E. Bingham, Alabama, was elected *honorary president* of the National Association of Boards of Pharmacy, an office created at the recent meeting of that body.

Former Congressman **George W. Edmonds,** from Philadelphia, has been re-nominated as candidate for the office. He graduated in pharmacy in 1885 from the Philadelphia College of Pharmacy.

Secretary F. A. Jacobs, of the Ontario Retail Druggists' Association, member of the A. PH. A.—who took an active part in the Toronto Convention—was married September 10th to Mrs. M. Calligan, widow of the late Dr. T. J. Calligan of New Zealand.—Congratulations.

Governor I. C. Blackwood has recently named R. N. Dacus of Greenville, S. C., as a member of the State Highway Commission, said appointment to extend over a period of four years.

Mr. Dacus is a former president of the South Carolina Pharmaceutical Association and ex-member of the Board of Pharmacy. He operates a number of drug stores in Greenville, and is very active in the affairs of the community.

APOTHEKER-ZEITING DISCONTINUES.

It is regretted that the *Apotheker-Zeitung* has been discontinued after fifty-three years of useful service. Hugo Kantrowitz, the editor, has been an active member of the AMERICAN PHARMACEUTICAL ASSOCIATION for many years, and has been connected with the publication since its founding. During these many years our fellow-member has ably served the readers, most of whom are members of the New York German Apothecaries Society. The passing of the publication is regretted and best wishes are extended to the veteran.

THE REMINGTON HONOR MEDAL AWARD.

The formal award of the Remington Honor Medal was made at a Testimonial Dinner tendered to the recipient on October 12th, at the Emerson Hotel, Baltimore. This is the 12th award; in sequence the other Remington medalists are: James H. Beal, J. U. Lloyd, H. V. Arny, H. H. Rusby, G. M. Beringer, H. M. Whelpley, H. A. B. Dunning, C. H. LaWall, W. L. Scoville, Edward Kremers and E. F. Cook. The report will be made by the New York and Baltimore Branches, A. PH. A. in the November JOURNAL.

OBITUARY.

R. M. DUNCAN.

Raymond M. Duncan, pharmacist at Pierz, Minn., and member of the AMERICAN PHARMACEUTICAL ASSOCIATION, died September 5th, aged 62 years. He practiced for a time in South St. Paul, moving in 1913 to Pierz, where he purchased a drug store. He had been prominent in civic and business affairs at Pierz, and took an active interest in pharmaceutical organizations.

Mrs. Duncan continues the business under the management of Lawrence H. Mueller.

Surviving are his widow and one daughter, Miss Marion.

WILLIAM FRANKLIN BAUM.

William Franklin Baum, a former president of the Illinois Pharmaceutical Association and member of the AMERICAN PHARMACEUTICAL ASSOCIATION, died at Lakeview Hospital, Danville, Ill., July 2nd, aged 84 years.

The deceased was born at Covington, Ky., February 5, 1848. He received his early education at Covington and Ladoga. In 1870 Mr. Baum entered the drug business at Covington as an apprentice and two years later he acquired a branch store at Marshfield, Ind., and continued in business there until 1875. Previously he had established a drug store in Danville and very soon devoted all of his attention to this pharmacy.

Mr. Baum had retired from business but did not lose interest in pharmaceutical affairs and was in attendance at the last meeting of Illinois Pharmaceutical Association held in Peoria. He is survived by one son, Clarence H. Baum, Superintendent of Lakeview Hospital at Danville.

WILLIAM A. PUCKNER.

Prof. William August Puckner, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, died at the Presbyterian Hospital in Chicago, October 1st,

aged 68 years. Professor Puckner was born in Wisconsin and educated at the Chicago College of Pharmacy, at Harvard University, and at the University of Heidelberg. He was a professor of chemistry at the University of Illinois School of Pharmacy from 1890 to 1910, also a member of the Committee on Revision of the U. S. Pharmacopœia, and of the Committee on Synthetic Drugs of the National Research Council. He received honorary degrees from the University of Pittsburgh and the Philadelphia College of Pharmacy. When the Council on Pharmacy and Chemistry was established in 1906, Professor Puckner was chosen secretary of the Council, and he has continuously held that position for the twenty-six years, throughout the entire period of existence of the Council. Professor Puckner had many friends in the medical profession and they will remember him for his constant adherence to its ideals, for his gentility and for his efficient devotion to his work.—*Jour. A. M. A.*

The deceased had been a member of the AMERICAN PHARMACEUTICAL ASSOCIATION for forty-four years, active in the Scientific Section for many years, and also, during his professorship, in the American Association of Colleges of Pharmacy.

FRANK J. DUBSKY.

Brief mention has been made in the August JOURNAL of the passing of Frank J. Dubsky, of Chicago, member of the AMERICAN PHARMACEUTICAL ASSOCIATION. Mr. Dubsky had always led an active life with many interests outside his drug store at 1834 W. Forty-Seventh Street, which he had operated continuously for twenty-seven years. He was a graduate of Northwestern University School of Pharmacy. His interest in, and service to, local pharmacy is indicated by the fact that he had served as president of the Illinois Pharmaceutical Association, the Chicago Retail Druggists' Association and the Chicago Drug Club.

Mr. Dubsky is survived by his widow, two sons and a daughter.

A. W. ALLEN.

A. W. Allen, Portland, Ore., retail and wholesale druggist for more than forty years, died August 13th at Corvallis. He was one of the organizers of Oregon Pharmaceutical Association and for more than twenty years its secretary. Following his graduation from the pharmacy department of Oregon Agricultural College he engaged in the drug business in Portland, conducting the business at the same location until his death.

Because of his long and faithful service as secretary of the Oregon association there was established in his honor in 1925, when he assumed the presidency, a student loan fund at the School of Pharmacy, Corvallis. This fund has since grown to $11,000 and has helped many worthy students in pharmacy to complete their studies.

His widow and one daughter survive the deceased.

CHARLES M. WOODRUFF.

Charles M. Woodruff, who was for many years head of the legal department of Parke, Davis & Co., died August 17th at his home in Detroit, aged 81 years. Mr. Woodruff was one of the founders of the American Drug Manufacturers' Association, and was secretary of that organization from 1912 to 1921.

CHARLES L. HAMILTON.

Charles Lyman Hamilton, president of the Potter Drug & Chemical Company, died at his home in Malden, Mass., July 16th, aged 67 years. After the death of George Robert White, he served as one of the executors of his will. The benefits derived by the people of Boston through the latter and begun during his lifetime are outstanding and should be mentioned here because he gave so liberally to the Massachusetts College of Pharmacy.

BOOK NOTICES AND REVIEWS.

Annual Survey of American Chemistry, Volume VI, 1931; edited by CLARENCE J. WEST, Chemical Catalog Company, Inc., New York, N. Y.; price $4.50.

This volume, published for the National Research Council by the Chemical Catalog Company, Inc., and edited by Clarence J. West, editor of *Chemical Abstracts*, with the aid of forty-four contributors, is a valuable summary of the chemical research performed in 1931. It comprises 573 pages of reading matter divided into thirty-seven chapters, each chapter being written by a different author, who is usually a specialist in the particular department of chem-

istry discussed. The contributors include members of the staffs of the Rockefeller Institute for Medical Research, U. S. Bureau of Standards, U. S. Geological Survey, U. S. Bureau of Soils, U. S. Bureau of Insecticides and Fungicides, California Institute of Technology and of many leading American universities such as Columbia, Yale, Johns Hopkins, Chicago, Illinois, Princeton, Minnesota, Michigan and Wisconsin, of the Mellon Institute and of a number of prominent industrial organizations.

As might be expected from such a compilation as the one before us, the value of the different chapters varies greatly, the treatment of some topics being very thorough, while that of others is superficial and perfunctory. There are separate chapters devoted to the following subjects: subatomic phenomena, thermodynamics and thermochemistry, colloids, contact catalysis, photochemistry, X-ray determination of crystal structure and examination of materials, electrochemistry, radium and radioactivity, analytical chemistry, properties of compressed gases, non-ferrous metals and ferrous metallurgy, metallo-organic compounds, aliphatic, carbocyclic and heterocyclic organic compounds, foods, water, sewage, soils, fertilizers and numerous departments of chemical industry. Of course, every phase of inorganic and organic chemistry is described either in a separate chapter or in connection with other topics. Biochemistry is discussed in general, and a separate chapter is devoted to vitamins, by H. C. Sherman, a leading authority on the subject. Pharmaceuticals are summarized by C. S. Leonard in a contribution of special interest to readers of THIS JOURNAL as it gives an idea of the large amount of research on medicinal chemistry being carried on in the United States as well as abroad. This chapter, however, is not altogether complete and a number of omissions are to be noted.

Probably the most valuable part of this reference book are the numerous references scattered through its pages. In some chapters the number of these runs into several hundred. Thus, for instance, the chapter on insecticides and fungicides, covering about twenty-five pages, boasts 240 references. Another valuable feature of this volume are the lists of patents appended to various chapters, bearing upon the material treated therein. Again, other contributors, in addition to specific references, have appended to their respective chapters a list of books for general reading on the subject under discussion. Other chapters include a statement as to problems demanding further research. A complete author's index and a fairly satisfactory subject index are appended to the book.

This work should prove very useful to all students and investigators of chemistry, whatever their special line of interest may be.—DAVID I. MACHT.

Ubbelohde's Handbuch der Chemie und Technologie der Öle und Fette. Volume II, Part 1. Chemie und Technologie der Pflanzlichen Öle und Fette. Edited by HANS HELLER. 2nd Edition. XII + 824 pages. 114 illustrations. Verlag von S. Hirzel, Leipzig, 1932. Price 73 marks; bound 79 marks.

This volume is the first part of a revision of Volume II of the first edition published in 1920. Due to the increase in size occasioned by the inclusion of new material, the revised Volume II is being published in two parts; the second part will treat of the animal fats and oils. Except for one chapter of 31 pages on the subject of oil cakes, the entire volume is devoted to descriptions of the various vegetable oils. About 750 different oils are considered. This is almost twice the number described in the previous edition and about 400 more than are described in the 1922 edition of Lewkowitsch's Chemical Technology and Analysis of Oils, Fats and Waxes. Because so many of the less common oils are described, the volume should be of more than ordinary interest to those persons interested in the phytochemistry of vegetable drugs. Certain of the oils such as olive, castor and coconut are given rather extensive treatment, while less common oils such as ergot, datura and strophanthus are given less space. In every case, where the information is available the physical and chemical properties of the oil are set forth, usually in tabular form, and very extensive reference is made to the original literature.

The portion of the volume devoted to the vegetable oils and fats is divided into four parts, namely: Drying Oils, Semi-drying Oils, Non-drying Oils and Solid Fats. Under these headings the oils and fats are arranged according to plant families. Plants belonging to the same family may have representatives under more than one heading, but these are thoroughly classified in the table of contents. There are three very complete and well-arranged indexes; author, subject and botanical.

As a reference work treating of the vegetable oils and fats for those engaged in the pharma-

ceutical investigation of crude drugs and for those interested in the use of these products in pharmaceutical technology, the volume is excellent. The numerous excellent illustrations of parts of vegetable drugs should be of special interest to many workers in pharmacy. Thus, there are eight for *Cannabis sativa*, eight for *Papaver somniferum*, eleven for linseed, and six for *Claviceps purpurea*.

The editor states in the preface that the literature is practically complete to 1930; for 1931, use has been made of that of greatest value.—GLENN L. JENKINS.

ADDITIONAL COMMITTEE REPORTS.*

REPORT OF A. PH. A. COMMITTEE ON THE U. S. PHARMACOPŒIA.

Mr. President and Members of the American Pharmaceutical Association:

Your committee is happy to report that during the past year no special problems have been submitted to our committee and that pharmacopœial matters during this time have progressed in a very satisfactory manner. There is ample evidence that the Committee of Revision is doing its work thoroughly and well, and that we can look forward to an excellent pharmacopœia at an early date—a pharmacopœia that will embody standards of the highest type, and methods of analysis that will reflect the most recent scientific investigations; a pharmacopœia that will stand in the vanguard of all of the pharmacopœias in the world.

Your Committee desires to commend each member of the Committee of Revision and the Committee as a whole, for the self-sacrificing devotion given to the task.

Respectfully submitted,

LYMAN F. KEBLER, *Chairman* E. N. GATHERCOAL
W. BRUCE PHILIP CHAS. J. CLAYTON.

REPORT OF COMMITTEE ON HORTICULTURAL NOMENCLATURE.

The Chairman and Members of the House of Delegates:

Your committee desires to report that its chairman has recently been in touch with Secretary Kelsey of the American Joint Committee on Horticultural Nomenclature concerning the progress of revision of "Standardized Plant Names." He reports that Dr. Coville and himself are working hard at the new edition and that they hope the financial end will be arranged so it may be published in 1933 or at the 10-year period.

The work seems now to be standard in horticulture in this country and is accepted without question by most authorities.

We recommend an appropriation of $25.00 be made by this Association toward financing the publication of the second edition of "Standardized Plant Names."

Respectfully submitted,

C. W. BALLARD, E. N. GATHERCOAL, HEBER W. YOUNGKEN, *Chairman.*

REPORT OF COMMITTEE ON LOCAL BRANCHES.

In spite of the rather adverse economic conditions which seemed to have continued in all areas of our country the local branches of the parent organization are for the most part steadily growing in numbers and influence. As a rule we find that we have successful branches in places where we have enthusiastic members who are willing to do the work necessary in order that the programs may interest the busy practicing pharmacist. A study of the various programs offered in the local branches evidences the universality of the appeal of the A. PH. A. which is neither bounded nor circumscribed by any one particular group in pharmacy. The committee desires to appeal to the members to support their local branches and where there is no local branch to lend their aid in establishing one if, in the opinion of our officers, conditions seem to warrant it.

Another development that should be felt greatly within the next decade is the increase in the number of student branches. In these branches the students are afforded the opportunity to receive some experience in conducting interesting meetings, which, in the opinion of your committee, should prove helpful to them when they become practicing pharmacists. Also it should serve to produce for us many potential workers in the cause of organized pharmacy.

Respectfully submitted,

C. LEONARD O'CONNELL, *Chairman.*

* Toronto meeting; see pages 1084 and 1106.